February 2021

Binder 050, Dicrocoelidae Q-Z [Trematoda Taxon Notebooks]

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Skrjabinosomum Evranova, 1944

Generic diagnosis. — Dicrocoeliidae, Dicrocoeliinae, Brachylecithini; Body filiform, very long, unarmed. Oral sucker subterminal, followed by pharynx; intestinal bifurcation and posterior extent of ceca not traced. Acetabulum larger than oral sucker and close to it. Testes longitudinally elongated oval, situated in middle third of body, well apart from each other; cirrus pouch small, just pre-acetabular. Genital pore median, pre-acetabular. Ovary spherical, posttesticular, with shell gland complex behind. Vitellaria extending for a short distance in postovarian lateral fields. Uterus descending to posterior extremity, overreaching ceca in postvitellarian region; ascending portion confined to intercecal field; eggs small, thick-shelled. Parasitic in intestine (?) of birds.

Genotype: *S. porrectum* (Braun, 1899) Evranova, 1944 (Pl. 75, Fig. 914), in *Saurophaga saurophaga*; New Guinea.

SKRJABINOSOMUM Evranova

Generic diagnosis: Dicrocoeliidae, Dicrocoeliinae. Body surface without papillae. Exceptionally long, slender; maximum width to length ratio not greater than 1:45. Pre-oral lobe; pharynx, short oesophagus, elongated caeca, posterior extent of which not traced. Acetabulum near to and larger than oral sucker. Testes elongate oval, separated from acetabulum, lying at end of anterior third or in middle third of body; in tandem, separated from each other and from ovary by uterus. Ovary round or oval. Vitellaria in post-ovarian lateral fields. Genital pore medial, pre-acetabular. Parasitic in liver, ?intestine of birds.

Skrjabinosomum differs from *Brachylecithum* in its greatly elongated narrow body, and displacement posteriorly of the reproductive organs from the acetabulum. *Brachylecithum lobatum* (Railliet) has the smallest width/length ratio known to us from previous descriptions of Dicrocoeliinae: 1:35–1:40, our calculations, from measurements given by Skrjabin & Evranova (1953). To separate the two genera, we have given the maximum width/length ratio of *Brachylecithum* as not less than, and of *Skrjabinosomum* as not greater than, 1:45. This figure may have to be adjusted in the future.

FROM ANGEL AND PEARSON, 1977

Skrjabinosomum porrectum (Braun, 1899) Evranova, 1944

Синонимы: *Distomum porrectum* Braun, 1899; *Dicrocoelium porrectum* (Braun, 1899) Looss, 1899; *Lyperosomum porrectum* (Braun, 1899) Skrjabin, 1913; *Orthorchis porrectum* (Braun, 1899) Travassos, 1944

(Рис. 195)

Хозяин: птица — *Saurophaga saurophaga*.

Локализация: кишечник.

Место обнаружения: Новая Гвинея.

Описание вида (по Травассосу, 1944). Длина тела 17 мм при максимальной ширине 0,57 мм в передней части. Тело сильно удлиненное, тонкое, ширина его у заднего конца достигает 0,2 мм. Передняя часть тела нитевидная, шириною 0,06 мм. Кутикула тонкая, невооруженная. Брюшная присоска достигает 0,155 мм в диаметре и отстоит приблизительно на 0,5 мм от ротовой присоски; диаметр ротовой присоски 0,114 мм. Соотношение размеров присосок 1 : 1,35. Диаметр фаринкса 0,07 мм.

Бифуркацию кишечника не удалось рассмотреть, а кишечные стволы были заметны только в средней части тела. Половое отверстие лежит медианно, впереди брюшной присоски. Половая бурса маленькая. Продольно удлиненные семенники расположены в средней части тела и достигают 0,31 ×0,18 мм. Расстояние между семенниками зависит от степени сокращения тела. Яичник шаровидный, меньше семенников, расположен позади них. Тельце Мелиса находится позади яичника. Желточники начинаются непосредственно позади зоны тельца Мелиса и достигают в длину 2—2,5 мм. Петли матки расположены в задней части тела, выходя за область кишечных стволов. Восходящая ветвь матки расположена между кишечными стволами. Зрелые яйца снабжены очень толстой оболочкой; их размер 0,037—0,041 ×0,023 мм.

Литература: Braun, 1899, стр. 714; Braun, 1902; Looss, 1899, стр. 634; Скрябин, 1913, стр. 373; Скрябин, 1944, стр. 329; Travassos, 1944, стр. 201.

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Skrjabinosomum

~~Lyperosomum~~ porrectum (Braun, 1899) Evranova, 1944

SYN. LYPEROSOMUM PORRECTUM (BRAUN, 1899)

FROM SAUROPHAGA SAUROPHAGA

FIG. FROM BRAUN, 1902

Skrjabinosomum mawsoni ~~n.sp.~~ ANGEL AND PEARSON, 1977

FIGS 7–9

Type host. *Manorina flavigula*.

Location in host. Liver.

Locality. Port Augusta, S. Aust. May, 1965

Incidence. 1 of 8 birds from S. Aust. and N.T. dissected 1965-1967.

Food of host includes beetles, ants and other insects.

Holotype. SAM V96 (lateral mount), with *paratype* (dorsal mount, complete but for oral sucker) on one slide.

Paratype. SAM V97.

Other slide deposited. SAM V98.

Other host. *Turnix castanota*. Cowell, S. Aust., 26.v.1965. In 1 of 2 birds collected together. (One complete; one complete except for first testis and anterior end; and four pieces). *From* liver. *Food of host* includes "heavy" insects.

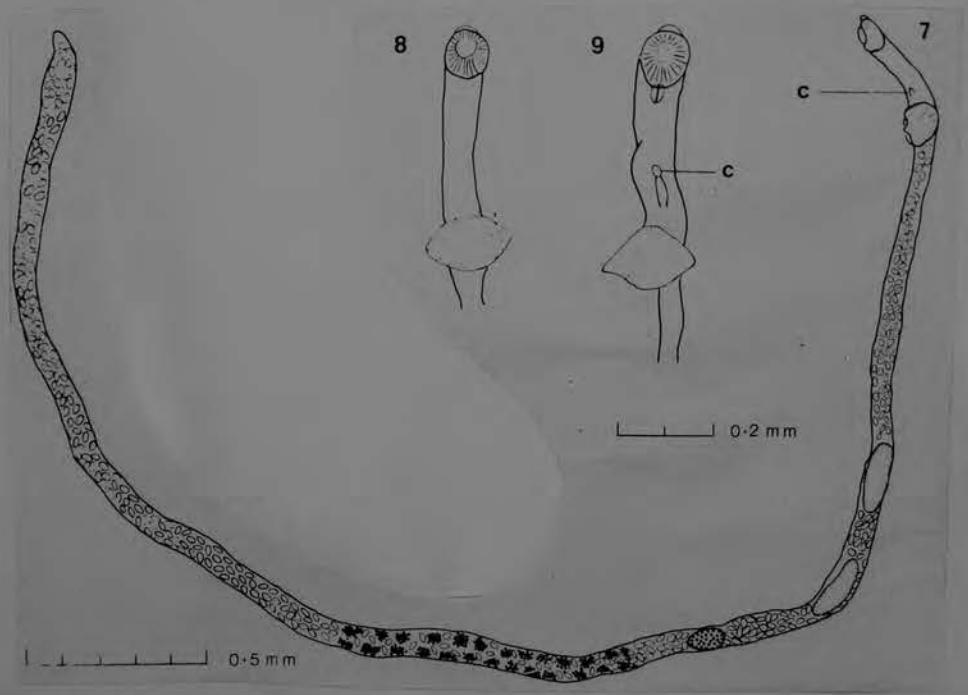
Description based on whole mounts of 5 complete and 3 almost complete specimens, with 17 pieces of several other specimens from the type host.

Description

Body (4.0–5.4 mm) very long, narrow, cylindrical or sub-cylindrical. Width/length ratio 1:85-1:115 (1:102). Papillae not seen on surface of body. Acetabulum (131 x 129 μm), situated approximately in anterior twelfth of body, a little larger than oral sucker (103 x 89 μm); not strongly muscular, wider than body and approximately diamond-shaped; in lateral mounts margin folded irregularly. Oral sucker more muscular than acetabulum. Pharynx not clearly seen in most specimens; oesophagus and alimentary caeca not seen. (In specimen from *Turnix castanota*, pharynx obvious and part of oesophagus seen).

Testes elongate oval; situated well posterior to acetabulum; tandem. Cirrus pouch mostly anterior to acetabulum; cirrus with bluntly rounded end; genital pore nearer to acetabulum than to oral sucker. Ovary oval, smaller than testes. Ovary and testes more or less well separated from each other, probably depending on state of elongation of worm, by uterine coils. Vitellaria, beginning near posterior border of ovary, consisting of variously sized groups of small follicles; largely obscured by eggs; up to 800 μm in extent. Uterus, with many eggs, occupying all of hindbody not filled by gonads and vitellaria.

S. porrectum (Braun) from *Halcyon sauro-phaga*, New Guinea, and *S. elongatum* Yadav from *Sterna aurantia*, India, are the only species previously described in the genus. *S. mawsoni* shows a close resemblance to *S. por-*



-OVER-

rectum in general appearance, though it is much smaller. Travassos (1944) who reproduced Braun's (1902) measurements and figures, referred to the great elongation of the body of *S. porrectum*, and said that careful examination of Braun's figures gave a clear impression of material preserved in the early stages of decomposition. The widening of the body shown in the anterior third is almost certainly distorted. The length was 17 mm; maximum width was given as 0.57 mm (width/length ratio 1:30), width at posterior end 0.2 mm (1:85). From Travassos' fig. 3 we estimate the probable maximum width as 0.28 mm (ratio 1:60).

S. mawsoni differs from *S. porrectum* in: size (4–5 mm, 17 mm respectively); width/length ratio (1:85–115, 1:60); acetabulum not so near anterior end (forebody/total length ratio 1:12, 1:22); ovary (oval, spherical); testes further forward (in anterior third, middle third); eggs smaller (32 x 19 μm, 37–41 x 23 μm).

We have not seen the description of *S. elongatum*.

Skrjabinosomum pomatostomi ~~n.sp.~~ ANGEL AND PEARSON, 1977

FIG. 10

Host. Pomatostomus superciliosus.

Location in host. Liver.

Locality. The Bunkers. Flinders Ranges, S. Aust. 22.vii.1965.

Incidence. 1 of 35 birds, from S. Aust. and N.T., 1938–1969 (10 of which were from the Bunkers, July, 1965).

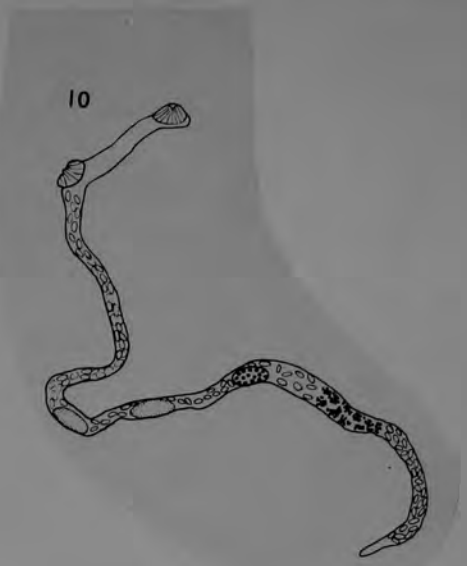
Food of host includes beetles and other insects.

Holotype. SAM V99, with six pieces of *paratype* on same slide. Two other slides, one with two twisted specimens and several pieces of no value (paratype SAM V100) the other with only anterior end (paratype SAM V101).

One entire trematode and a number of pieces of at least three others were recovered. All specimens were rather sticky. SAM V101 (anterior end only) was studied first in glycerine. Thus measurements of the suckers from the ventral and lateral aspect were taken. Description based on all available material.

Description

Body elongate (2.4 mm), narrowly cylindrical or sub-cylindrical, with pre-oral lobe. Papillae not seen on surface of body. Acetabulum (115 x 181 μm) not strongly muscular, diamond-shaped and transversely elongate in ventral view, probably a little larger than oral sucker (97 x 94 μm), lying between anterior sixth and seventh of body in holotype. Pharynx present; oesophagus and alimentary caeca not seen. Testes oval, situated well back from acetabulum, in tandem. Testes and ovary separated from each other by uterus. Ovary closer to posterior end of body than to acetabulum. Vitellaria not in well-defined follicles.



In *S. pomatostomi* the sizes of the organs and the distance of the acetabulum from the anterior end of the body, the distance of the first testis from the acetabulum, and the relationship of testes, ovary and vitellaria to each other are similar to these features in *S. mawsoni*. However, the much shorter distance from the ovary to the hind end of the body in *S. pomatostomi* makes the relative positions of the organs in body length distinctly different in the two species. In the five complete specimens of *S. mawsoni* from *Manorina flavigula* the ratio of length of body posterior to ovary to total body length is 10:17, 18, 18, 19 and 19; in a sixth specimen, the length of which can be estimated closely (lacking only the oral sucker), the ratio is 10:20; in the only complete specimen from *Turnix castanota* the ratio is 10:21. In *S. pomatostomi* it is 10:30.

Corresponding with the shortening of the hindbody in *S. pomatostomi* the acetabulum lies relatively further back, the vitellaria are shorter and nearer to the posterior end of the body, and the uterus and number of eggs are much reduced.

It appears that the acetabulum of *S. pomatostomi* is larger than that of *S. mawsoni* from *Manorina flavigula* (though the same size as in *S. mawsoni* from *Turnix castanota*). However, the acetabulum in both species is not strongly muscular and its outline is variable (probably depending on the position in which it is mounted). The natural shape of the acetabulum appears to be angular, with the margin coming to a point on each side of the body. When such a specimen can be measured in this position its width is maximal. The depth is probably a better indication of the size of the acetabulum. The width of the eggs (31 x 16 μm) is less in *S. pomatostomi* than in *S. mawsoni*.

It is possible that *S. pomatostomi* is a young form of *S. mawsoni* in which the hind end of the body has not reached its full length, the uterus and the vitellaria being not yet fully developed. But although the proportions of this part of the body are so markedly different, the size of the gonads (and presumably their maturity) is much the same in the worms from the two hosts. We regard *S. pomatostomi* a distinct species, characterised by the close proximity of the ovary to the hind end of the body.

S. pomatostomi differs from *S. porrectum* in size (2.4 mm, 17 mm respectively); in the more backward position of the acetabulum (forebody/hindbody 1:6–7, 1:22), in having an oval ovary, situated at 2/3 of body length (round, at midlength in *S. porrectum*), and in egg size (31 x 16 μm, 37–41 x 23 μm).

Skrjabinosomum sp.

Host *Microeca leucophaea*.
Location in host. Liver.
Locality. Port Augusta, S. Aust. September, 1965.
Incidence. 1 of 11 birds from various localities (3 near Port Augusta) in S. Aust. and N.T., 1958–65.
Food of host includes beetles and other insects.
Slide (with 5 pieces) deposited in University of Adelaide Helminthological Collection.

Five pieces of a very long, narrow trematode were stained and mounted on one slide. The worm was incomplete, and lacked hind end and oral sucker. The acetabulum, mounted in lateral view, is 76 μm high by about 39 μm deep. The testes are obviously situated well posterior to the acetabulum. Vitellaria show in two pieces: they consist of small follicles in large groups not sharply demarcated, and occupy a length of at least 506 μm. Ten eggs measure 28–33 μm x 13–18 μm (30 x 14 μm).

The worm is similar to the elongate species *S. mawsoni* and *S. pomatostomi* and may be conspecific with one of them.

FROM ANGEL AND PEARSON, 1977

SKRJABINOSOMUM

Skrjabinus (Travassos, 1920) Bhalerao, 1936

Generic diagnosis. — Dicrocoeliidae, Dicrocoeliinae, Eurytrematini: Body flattened fusiform. Oral sucker subterminal, large, pharynx muscular, esophagus short, ceca not reaching to posterior extremity. Acetabulum situated about one third of body length from anterior extremity. Testes symmetrical, separated one from the other by uterine coils, in anterior half of body. Cirrus pouch subcylindrical to claviform, mainly ventral to esophagus. Genital pore prebifurcal, sometimes ventral to pharynx. Ovary rounded, submedian, posttesticular, in middle third of body. Vitellaria mainly in equatorial lateral fields, commencing in pre-ovarian or testicular zone, occasionally in acetabular zone. Uterus very strongly developed, occupying almost whole hindbody; eggs small. Parasitic in gall bladder or liver of birds, occasionally of mammals.

Genotype: *S. skrjabini* (Issaitschikow, 1920), syn. *Eurytrema s. I.*, in *Lanius collurio;* Russia.

Other species:

S. biliosus Shtrom, 1940, in *Pastor roseus;* Turkestan.
S. lanceatus Shtrom, 1940 (Pl. 101, Fig. 1219), in *Anthus* sp.; Turkestan.
S. lanciformis Oshmarin, 1952, in *Falco subbuteo*, Russia.
S. latus Shtrom, 1940, in *Pastor roseus;* Turkestan.
S. popovi Kassimov, 1952, in *Tetraogallus caucasicus;* Russia.
S. rarus Shtrom, 1940, in *Oenanthe isabellina;* Turkestan.
S. similis Shtrom, 1940, in *Oenanthe isabellina;* Turkestan.

Representatives from mammals:

S. muris Stscherbakova, 1942, syn. *Platynosomum m.* (S.) (Pl. 84, Fig. 1016), in liver of *Sylvaemus sylvaticus;* Armenia.

Skrjabinus STROM 1940

BHALERAO (1936) proposed the splitting up of the genus *Eurytrema* Looss 1907, into five subgenera: *Pancreaticum*, *Skrjabinus*, *Lubens*, *Concinnum* and *Conspicuum*. STROM (1940) raised *Skrjabinus* and *Lubens* to the generic rank. TRAVASSOS (1944) retained the subgenera *Pancreaticum*, *Skrjabinus* and *Lubens* as originally proposed by BHALERAO, whilst he established the other two, *Concinnum* and *Conspicuum*, as new genera. He, however, substituted the name *Eurytrema* for *Pancreaticum*, a procedure which is in conformity with article No. 29 of the International Code of Zoological Nomenclature. SKRJABIN (1952) recognised STROM's genera *Lubens* and *Skrjabinus* and also those proposed by TRAVASSOS, viz., *Concinnum* and *Conspicuum*. As a result of this all the five subgeneric groups into which *Eurytrema* had originally been split up by Bhalerao have now been established as separate genera.

The genus *Skrjabinus* includes besides the genotype *S. skrjabini* (ISSAITSCHIKOFF 1920) the following other species: *S. kalmikensis* (SKRJABIN & ISSAITSCHIKOFF 1927); *S. biliosus* STROM 1940; *S. lanceatus* STROM 1940; *S. latus* STROM 1940; *S. rarus* STROM 1940; *S. similis* STROM 1940; *S. lanciformis* OSCHMARIN 1952; *S. popovi* KASSIMOV 1952. All these species have been described from Russia. The writer adds one new species from India.

FROM: JAISWAL, 1957

Skrjabinus skrjabini (Issaitschikoff, 1920)
syn.: Eurytrema skrjabini Issaitschikoff, 1920)
Host: Enneoctonus collurio = Lanius collurio

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196. *Skrjabinus skrjabini* (Issaitschikoff, 1920) (по Исайчикову, 1920)

Skrjabinus biliosus Strom, 1940.
(Рис. 197)

Хозяин: розовый скворец (*Pastor roseus*).
Локализация: желчный пузырь.
Место обнаружения: СССР (Киргизия).

Описание вида (по Штрому, 1940). Длина тела 5,4 мм при максимальной ширине 1,64 мм. Кутикула без шипов. Размер ротовой присоски 0,470 ×0,560 мм, брюшной присоски 0,560 ×0,530 мм. На расстоянии 0,135 мм от переднего конца тела располагается брюшная присоска. Размер фаринкса 0,17 ×0,16 мм. Пищевод и кишечник слабо заметны. Семенники овальной формы лежат симметрично по бокам брюшной присоски, так что уровень ее заднего края пересекает их приблизительно пополам. Размер правого семенника 0,510 ×0,340 мм, левого — 0,510 ×0,400 мм. Половая бурса лежит впереди брюшной присоски, по медианной линии; ее размер 0,310 ×0,110 мм; половое отверстие находится у левой половины фаринкса. Яичник 0,280 ×0,31 мм, неправильной формы, находится позади брюшной присоски и семенников, немного влево от медианной линии тела.

Желточники едва заметны; они берут начало приблизительно на уровне семенников или кпереди от них и кончаются позади яичника. Матка занимает все тело позади брюшной присоски; впереди же от брюшной присоски ее петли направляются вдоль медианной линии тела к половому отверстию. Яйца коричневого цвета; их размер 0,028—0,032 ×0,017—0,022 мм.

Литература: Штром, 1940; Travassos, 1944.

Skrjabinus indicus ~~n. sp.~~ JAISWAL, 1957

In April, 1950, seven specimens of the Indian Stone-chat, *Saxicola caprata caprata* were autopsied and out of these one yielded six flukes belonging to the genus *Skrjabinus*. The parasites were recovered from the gall bladder which was opened and examined in normal saline.

The fluke has a delicate body with a rounded anterior end and a more tapering posterior extremity. It measures 2.45—2.67 mm. in length and 1.34—1.73 mm. in maximum width attained at about the equatorial level of the body. The cuticle is thin and unarmed. The oral sucker is subterminal and rounded, measuring 0.34—0.39 mm. in diameter. The acetabulum is oval, 0.55—0.57 by 0.36—0.44 mm., and about one and a half times as big as the oral sucker. It is located at 1/4th of the body length from the head end and is separated from the oral sucker by a short distance of 0.3 mm. The mouth surrounded by the oral sucker opens into a bulbus pharynx measuring 0.14 by 0.07 mm. The oesophagus which follows is very short, not exceeding 0.08 mm. in length. It divides into two intestinal caeca, the point of bifurcation lying midway between the two suckers. The caeca at first run backwards and outwards to the lateral zones and from here they pass along the sides of the body terminating posteriorly at 1/8th of the body length from the hind end.

The median excretory pore situated at the posterior end of the body opens into an excretory bladder which extends in front to the junction of the middle and posterior thirds of the body.

The testes are oval in shape with entire margins and lie almost symmetrically, one on either side of the hind border of acetabulum. The left testis, measuring about 0.21 by 0.15 mm., is slightly bigger than the right one which measures 0.19 by 0.15 mm. The cirrus sac is median and lies ventral to the oesophagus, extending from the intestinal fork to the pharyngial region. It encloses a coiled seminal vesicle, pars prostatica and a feebly developed cirrus.

The ovary is situated in the equatorial region of the body posterior to the level of the right testis. It is nearly rounded in shape and bigger than the testes, measuring 0.23 by 0.21 mm. A well differentiated shell gland lies on the left side of the ovary. The uterus is densely coiled and fills up all the available space in the body posterior to the acetabulum. The terminal portion of the uterus forms a few preacetabular coils as it runs from the acetabulum to the female genital pore. The vitellaria consist of small rounded follicles, occupying a length of 1.17 mm. along the lateral margins of the body. Anteriorly they reach the level of the front border of the acetabulum, whilst posteriorly they extend slightly into the posterior third of the body. The eggs are small and numerous, measuring 35 to 38 μ long by 17 to 21 μ broad, and possess well developed miracidia having eye-spots.

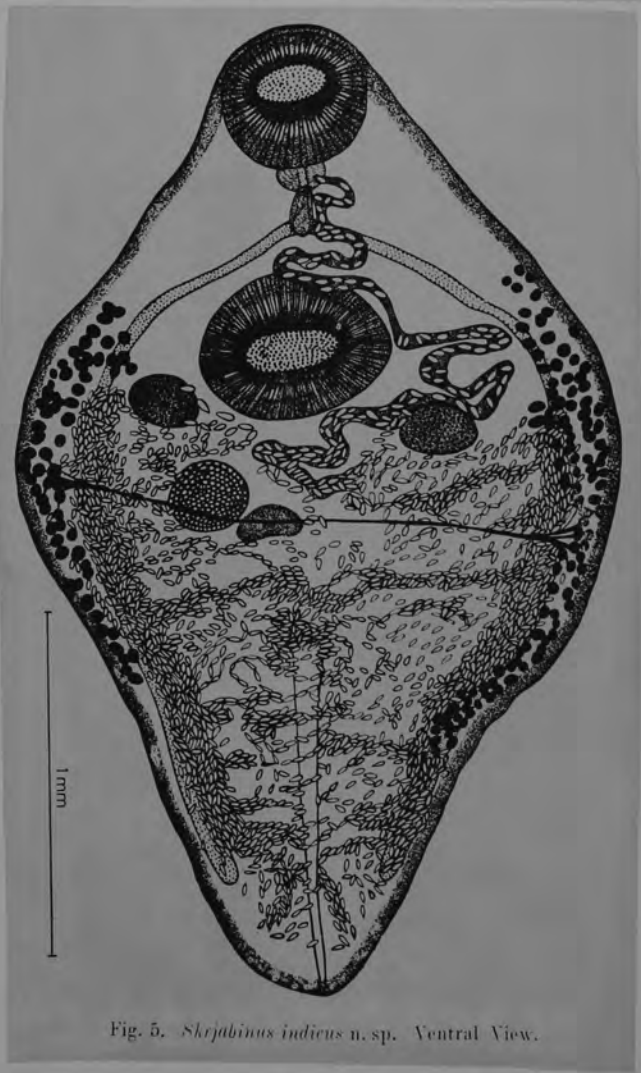


Fig. 5. *Skrjabinus indicus* n. sp. Ventral View.

OVER

Discussion: Of the nine species comprising the genus *Skrjabinus*, *S. lanceatus* STROM 1940, parasitic in *Anthus* sp., comes nearest to the form described above. The two species resemble each other in the similar disposition of the gonads in relation to the acetabulum, the extent of the uterine coils and somewhat similar distribution of vitellaria. The present form can, however, be distinguished from *S. lanceatus* by the following features: (1) In the new species, the body is spindle-shaped attaining its maximum width in the middle and tappering towards either extremities. (2) The vitellaria occupy about half of the marginal length of the body in the new species whilst they occupy only the middle third of the body in *S. lanceatus*. (3) The intestinal fork is midway between the two suckers in the present form, whilst it is nearer to the acetabulum in *S. lanceatus*.

In view of the characters exhibited, the writer feels justified in creating a new species for the reception of *Skrjabinus indicus*, the fluke described above. It is proposed to name it *Skrjabinus indicus* n. sp.

Specific diagnosis: Body short and spindle-shaped, measuring 2.15—2.67 mm. in length and 1.34—1.73 mm. in maximum width; oral sucker 0.34—0.39 by 0.34—0.42 mm.; acetabulum oval, about 1½ times the size of the oral sucker, measuring 0.55—0.57 by 0.36—0.44 mm.; testes 0.21 by 0.15 mm. and 0.19 by 0.15 mm., transversely oval and symmetrically placed on either side of the median line partially in the acetabular zone and widely separated from one another; ovary 0.23 by 0.21 mm., rounded and bigger than the testes, placed laterally behind the right testis; vitellaria occupy about half of the marginal length of the body; eggs 35—38 μ by 17—21 μ.

Host: *Saxicola caprata caprata.*

Habitat: Gall-bladder.

Locality: Hyderabad Deccan (India).

The type specimens of the above new species have been deposited in the Zoological Museum of the Osmania University.

Skrjabinus kalmikensis (Skrjabin et Issaitschikoff, 1927)

Синоним: *Dicrocoelium kalmikensis* Skrjabin et Issaitschikoff, 1927

(Рис. 198)

Этот вид, по данным Эврановой, должен относиться к роду *Skrjabinus.*

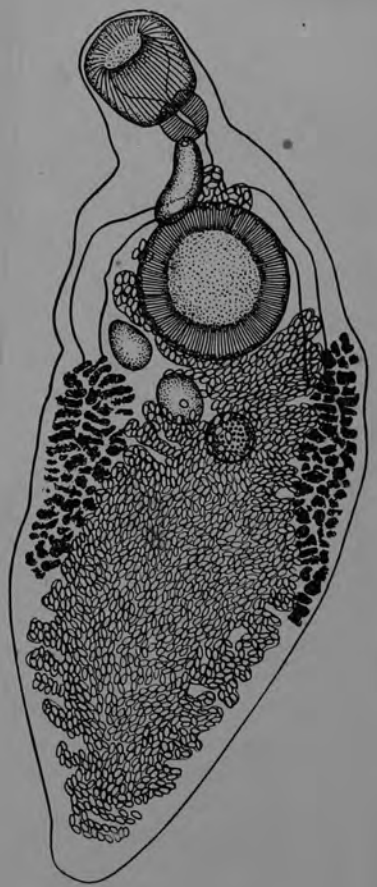
Хозяин: городская ласточка (*Chelidon urbica*).

Локализация: желчный пузырь.

Место обнаружения: СССР (Ростовская область)

Экстенсивность и интенсивность инвазии: найден 1 раз из числа 150 вскрытых городских ласточек.

Описание вида (по Скрябину и Исайчикову, 1927). Тело 3,1—3,4 мм длины при ширине 0,95—0,97 мм на уровне яичника. Ротовая присоска 0,32—0,36 мм длины при ширине 0,32—0,33 мм. Центр брюшной присоски располагается на расстоянии 0,87—0,9 мм от переднего края тела. Круглая брюшная присоска 0,5 мм длины и 0,5—0,59 мм ширины. Фаринкс 0,13—0,14 мм. Половые железы чрезвычайно малого размера и имеют весьма характерное положение: задний семенник лежит медианно, передний семенник справа от него в пространстве между задней частью брюшной присоски и кишечным стволом; яичник располагается слегка влево и позади заднего семенника. В общем все три железы лежат как бы на одной линии, образующей острый угол с продольной осью тела. Размер переднего семенника 0,12—0,15 ×0,13—0,15 мм; заднего семенника 0,16—0,15 ×0,16—0,15 мм. Диаметр яичника 0,13 мм. Желточники весьма характерны: начинаются они на уровне заднего края брюшной присоски, на расстоянии 1,1—1,2 мм от переднего конца тела; их протяженность 0,76—1,1мм; заканчиваются на расстоянии 0,95—1,12 мм от заднего конца тела. Чрезвычайно характерна ширина желточников, которая достигает 0,19—0,24 мм.



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-OVER-

SKRJABINUS KALMIKENSIS (SKRJABIN AND ISAITSCHIKOFF, 1927)

SYN. II. *DICROCOELIUM KALMIKENSIS* ~~n. sp.~~ SKRJABIN AND ISAITSCHIKOFF, 1927

(Plate XXI, fig. 2)

Host :—*Chelidon urbica*.

Habitat :—Biliary bladder.

Locality :—Found in 1918 by Professor K. I. Skrjabin and his Assistant, N. P. Zakharow, in Nowotscherkassk, Don District.

Frequency of discovery of the Parasite. This parasite is very rare. During the examination of over 150 specimens of *Chelidon urbica*, between 1918 and 1925, it was found only once. A large number of dissections of different species of swallows, e.g. *Hirundo rustica* and *Cotyle riparia*, yielded no specimens of this parasite.

Description of the species. The body reaches a length of 3·1 to 3·4 mm. and a breadth of 0·95 to 0·97 mm. at the level of the ovary. The oral sucker is 0·32 to 0·36 mm. long, and 0·32 to 0·33 mm. broad. The middle of the ventral sucker is 0·87 to 0·9 mm. distant from the anterior margin. The round ventral sucker is 0·5 mm. long, and 0·5 to 0·59 mm. broad. The pharynx measures 0·13 to 0·14 mm. in length and 0·5 to 0·59 mm. in breadth. The genital glands are quite small and their position very characteristic: the posterior testis is situated on the median line, the anterior one to the right of it, in the interval between the ventral sucker and the intestinal trunks; the ovary is to the left and behind the posterior testis. All three genital glands are situated on one line, forming a sharp angle with the axis of the body. The anterior testis reaches a length of 0·12 to 0·15 by 0·13 to 0·15 mm.; the posterior one 0·16 to 0·15 by 0·16 to 0·15 mm.; the diameter of the ovary is 0·13 mm. The yolk-glands are characteristic: they begin at the level of the posterior rim of the ventral sucker, i.e., at a distance of 1·1 to 1·2 mm. from the anterior end of the body, running in a broad strip for 0·76 to 1·1 mm., ending at a distance of 0·95 to 1·12 mm. from the posterior end of the body. The most typical peculiarity of the yolk-glands is their breadth, which reaches 0·19 to 0·24 mm., as a result of which, they not only project beyond the lateral edges of the intestines, but cross their inner margins as well. The cirrus pouch is 0·24 to 0·27 mm. in length and 0·11 mm. in breadth.

The chief characters of *D. kalmikensis* are:—

1. The great breadth of the yolk-glands.
2. The situation of all three genital glands on a line, forming an angle of 45° with the axis of the body.

FIG. 2.

Skrjabinus lanceatus Strom, 1940

(Рис. 199)

Хозяин: конек (*Anthus* sp).

Локализация: желчный пузырь.

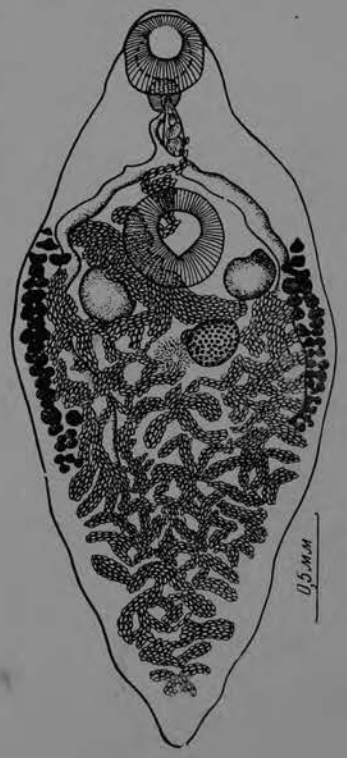
Место обнаружения: СССР (Киргизия).

Описание вида (по Штрому, 1940). Длина тела 3,37 мм при максимальной ширине 1,42 мм. Кутикула без шипов. Диаметр ротовой присоски 0,35 мм, брюшной — 0,45 мм. Пищевод короткий. Семенники округлой формы, расположены симметрично на уровне заднего края брюшной присоски. Размер правого семенника 0,235 ×0,235 мм, левого — 0,235 ×205 мм.

Половая бурса 0,29 мм длины и 0,090 мм ширины, лежит впереди брюшной присоски по медианной линии тела. Дно ее находится у развилка кишечных стволов. Половое отверстие открывается на уровне фаринкса по медианной линии тела.

Яичник неправильной овальной формы, 0,22 ×0,20 мм, расположен позади брюшной присоски и на расстоянии 0,1 мм от левого семенника. Семяприемник круглой формы, лежит справа и дорзально от яичника, а правее от него находится оотип. Желточники состоят из довольно крупных фоликулов, начинаются на уровне середины брюшной присоски, расположены кнаружи от кишечных стволов. Длина желточников: справа — 1,1 мм, слева — 0,91 мм. Матка состоит из поперечных нисходящих и восходящих петель. Яйца желтого цвета; их размер 0,030—0,035 ×0,017—0,020 мм.

Литература: Штром, 1940; Travassos, 1944.



Skrjabinus lanciformis Oschmarin, 1952[1]

(Рис. 203)

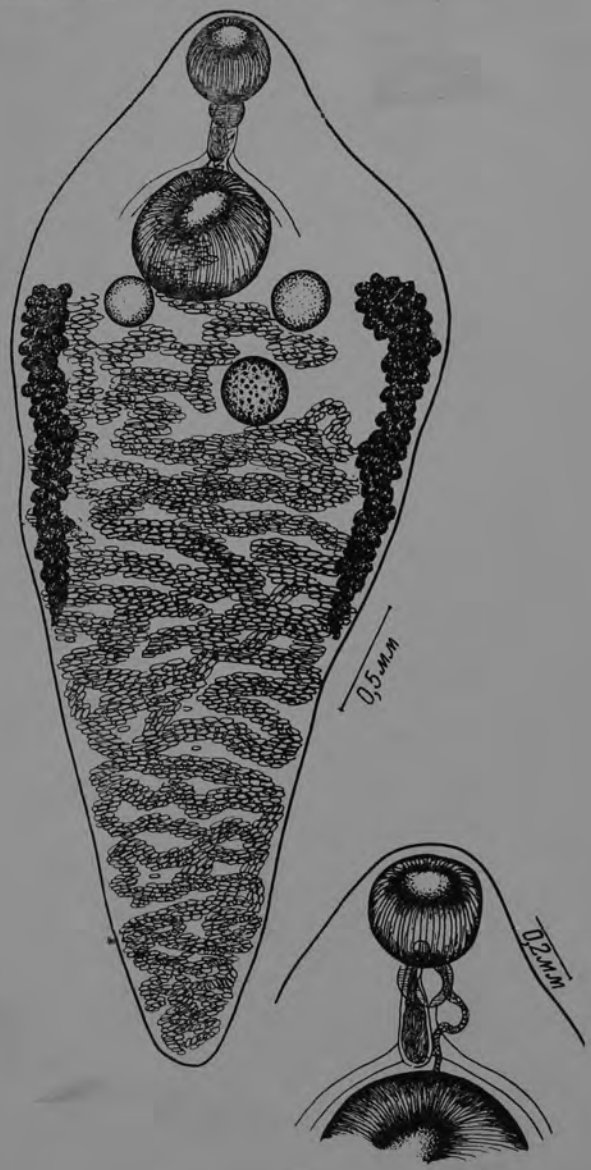
Хозяин: чеглок (*Falco subbuteo*).

Локализация: печень.

Место обнаружения: СССР (Приморский край — Пожарский район).

Экстенсивность и интенсивность инвазии: у одного чеглока, из трех вскрытых, два экземпляра.

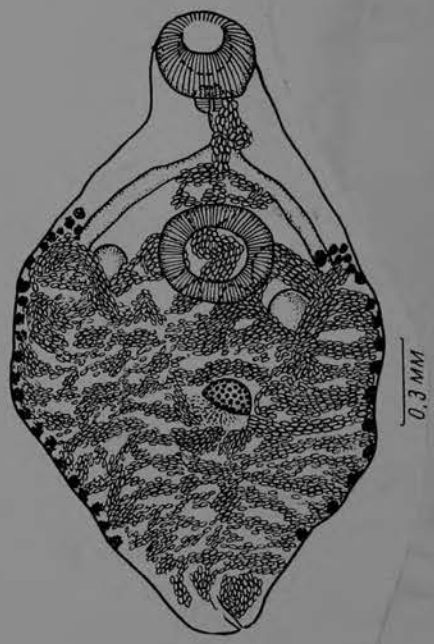
Описание вида (по Ошмарину, 1952). Тело имеет форму наконечника копья, причем задний конец трематоды соответствует острию копья. Длина тела 4,6 мм, ширина 1,740 мм. Шарообразная ротовая присоска обращена своим отверстием больше кпереди, нежели к брюшной стороне. Размер ротовой присоски 0,320×0,360 мм. Брюшная присоска значительно крупнее: 0,580 мм длины и 0,600 мм ширины. Расстояние между присосками несколько меньше диаметра ротовой присоски. Фаринкс находится против заднего края ротовой присоски; его размер 0,160×0,175 мм. Развилок кишечника находится непосредственно перед брюшной присоской. Шарообразные семенники лежат на одном уровне против заднего края брюшной присоски; их диаметр 0,240 мм. Половая бурса располагается в пространстве между передним краем брюшной присоски и передним краем фаринкса. Длина бурсы 0,250 мм, ширина 0,095 мм. Половые отверстия открываются на уровне переднего края фаринкса.



Skrjabinus latus Strom, 1940
(Рис. 200)

Хозяин: розовый скворец (*Pastor roseus*).
Локализация: желчный пузырь.
Место обнаружения: СССР (Киргизия).

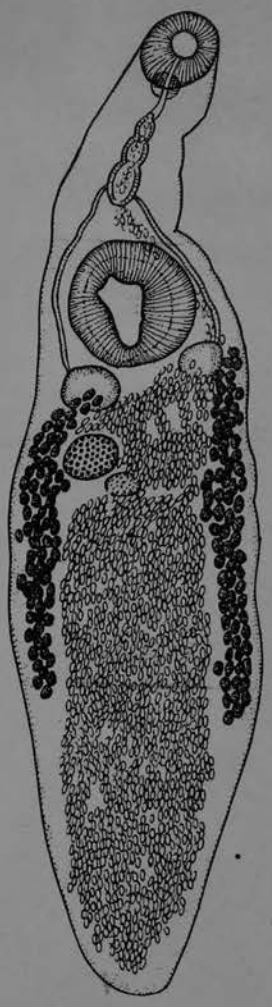
Описание вида (по Штрому, 1940). Тело достигает 2,35 мм длины при максимальной ширине 1,8 мм в области яичника и семенников. Кутикула без шипиков. Диаметр ротовой присоски 0,31—0,36 мм, брюшной 0,35—0,44 мм. Брюшная присоска располагается на расстоянии 0,73 мм от переднего конца тела. Фаринкс 0,10×0,13 мм. Короткий пищевод бифурцирует на середине расстояния между двумя присосками. Семенники округлой формы, лежат около брюшной присоски, на разных уровнях, один — справа, на уровне середины брюшной присоски, а другой — позади брюшной присоски и напротив левого ее края. Размер семенников 0,13×0,13 мм. Половая бурса находится впереди развилка кишечника в области пищевода, несколько влево от медианной линии тела. Половое отверстие находится в области левой половины фаринкса. Яичник неправильной формы 0,13×0,19 мм, лежит почти по медианной линии тела,



200

Skrjabinus popovi Kassimov, 1952

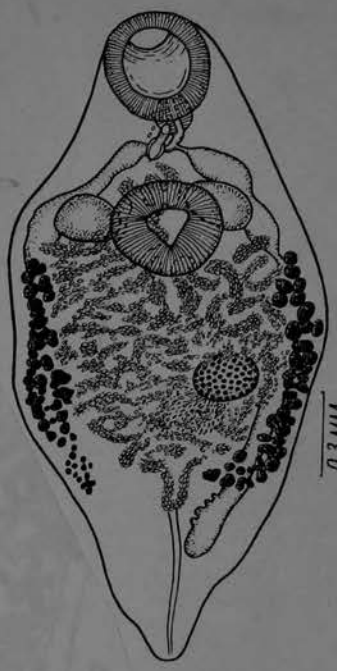
Host: Tetraogallus caucasicus



203a

Skrjabinus rarus Strom, 1940

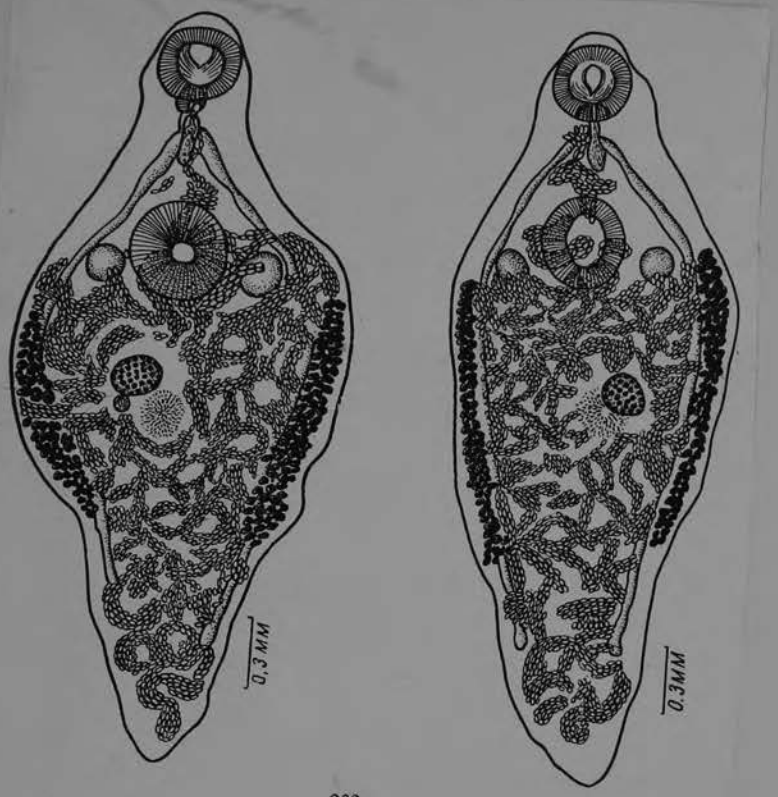
Host: Oenanthe isabellina



201

Skrjabinus similis Strom, 1940

Host: Oenanthe isabellina



SKRJABINUS

Stromitrematinae ~~n. subfam.~~ YAMAGUTI, 1958

Subfamily diagnosis. — Dicrocoeliidae: Body approximately fusiform. Oral sucker large, pharynx small, esophagus short, ceca? Acetabulum not observed. Testes symmetrical, pre-equatorial. Cirrus pouch post-bifurcal. Genital pore near intestinal bifurcation. Ovary submedian, in middle third of body. Vitellaria marginal, limited in extent, equatorial or postequatorial, in ovarian or postovarian zone. Uterus occupying nearly whole body.

Key to genera of Stromitrematinae

Ovary multilobate; vitellaria equatorial, in ovarian zone . . *Stromitrema*
Ovary entire; vitellaria postequatorial, in postovarian zone *Pancreatrema*

Stromitrema Skrjabin et Evranova, 1944

Generic diagnosis. — Dicrocoeliidae, Stromitrematinae: Body blunt-fusiform, rather robust, with folded edges. Oral sucker very large, subterminal, pharynx small. Ceca? Acetabulum not observed. Testes symmetrical, pre-equatorial. Cirrus pouch? Genital pore? Ovary large, multilobate, slightly submedian, just behind testicular level. Vitellaria symmetrical, marginal, in middle third of body, posttesticular. Uterus filling nearly whole body; eggs submedium-sized. Parasitic in gall bladder of birds.

Genotype: *S. koshewnikowi* (Skrj. et Massino, 1925) (Pl. 70, Fig. 847), syn. *Eurytrema k.* S. et M.; *Evandrocotyle k.* (S. et M.) Jansen, 1941; *Euparadistomum k.* (S. et M.) Trav., 1944, in *Muscicapa grisola* and *Hirundo rustica;* Russia.

Stromitrema koshewnikowi (Skrjabin et Massino, 1925)

Синонимы: *Eurytrema koshewnikowi* Skrjabin et Massino, 1925; *Eurytrema* (*Skrjabinus*) *koshewnikowi* (Skrjabin et Massino, 1925) Bhalerao, 1936; *Evandrocotyle koshewnikowi* (Skrjabin et Massino, 1925) Jansen, 1941; *Euparadistomum koshewnikowi* (Skrjabin et Massino, 1925) Travassos, 1944

(Рис. 204)

Хозяева: серая мухоловка (*Muscicapa grisola*), деревенская ласточка (*Hirundo rustica*).

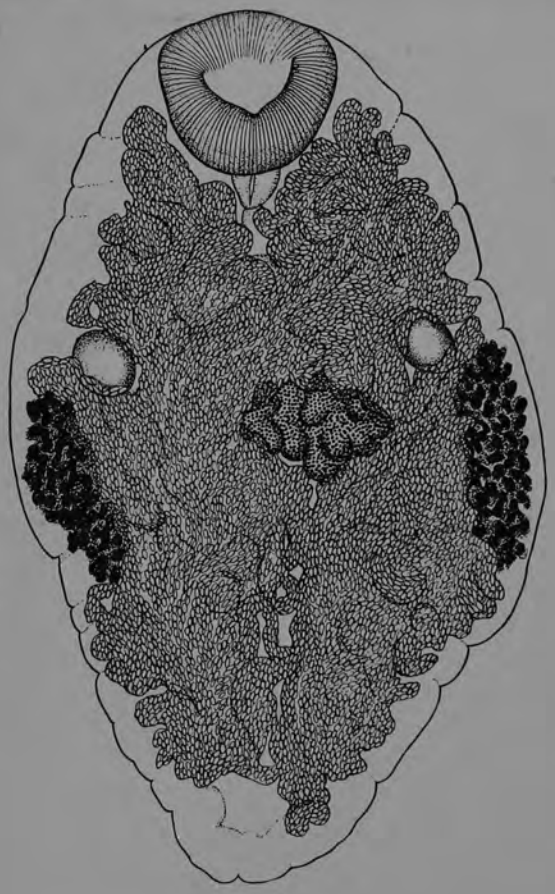
Локализация: желчный пузырь.

Место обнаружения: СССР (Московская и Новгородская области).

Описание вида (по Скрябину и Массино, 1925). Тело 3—7 мм длины при максимальной ширине 2,1 мм. Ротовая присоска 0,63 мм длины и 0,77 мм ширины. Размер фаринкса 0,22×0,2 мм. Брюшная присоска не заметна. Семенники с гладкими краями 0,25×0,25 мм в диаметре, расположены симметрично, на одном горизонтальном уровне, сдвинуты к латеральным краям тела. От переднего конца тела они находятся на расстоянии 1,1 мм.

Яичник значительно крупнее семенников, дольчатый, достигает 0,45×0,57 мм, лежит почти медианно, непосредственно позади уровня семенников.

Желточники довольно широкие, в то время как длина их не свыше 0,9—1,0 мм. Они лежат по краям тела, в средней трети его длины, начинаясь у задней границы семенников. Матка очень мощная, с густо расположенными



STOMITREMA

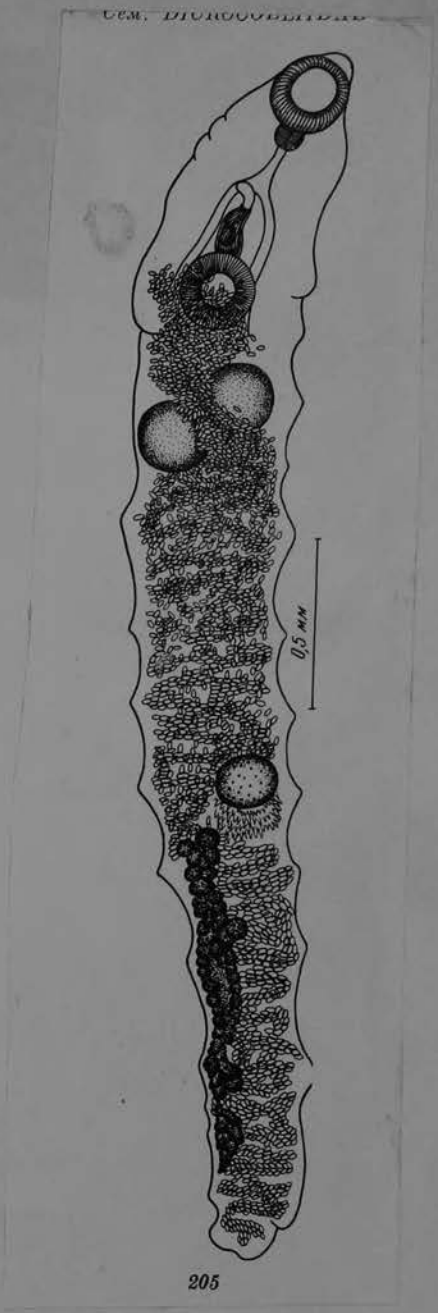
Unilaterilecithum Oschmarin, 1952

Generic diagnosis. — Dicrocoeliidae, Dicrocoeliinae, Athesmini: Body long, slender; hindbody distinctly serrate laterally. Oral sucker subterminal, pharynx small, esophagus short, ceca? Acetabulum subequal to oral sucker, in anterior third of body. Testes diagonal, close together, about one third of body length from anterior extremity. Cirrus pouch pre-acetabular, genital pore postbifurcal. Ovary postequatorial, far back of testes. Vitellaria extending on one side of posterior part of body from behind ovary to near posterior extremity. Uterus occupying most of hindbody; eggs small. Parasitic in birds.

Genotype: *U. beloussi* Oschmarin, 1952 (Pl. 75, Fig. 908), in liver of *Pericrocotus roseus;* Russia.

Unilaterilecithum beloussi Oschmarin, 1952

Host: Pericrocotus roseus



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UNILATERI LECITHUM

Zonorchis Travassos, 1944

Generic diagnosis. — Dicrocoeliidae, Dicrocoeliinae, Eurytrematini: Body more or less broadly lanceolate, with maximum width in testiculo-ovarian zone. Suckers close to each other, acetabulum definitely larger than oral sucker. Esophagus short, ceca terminating short of posterior extremity. Testes round, symmetrical, immediately postacetabular. Cirrus pouch small. Genital pore usually prebifurcal. Ovary round, submedian, posttesticular. Receptaculum seminis and Laurer's canal present. Uterine coils occupying most of hindbody. Vitellaria variable in extent, commencing usually in testicular zone or immediately behind it. Excretory vesicle tubular. Parasitic in biliary ducts or bladder of birds and mammals.

Genotype: *Z. microrchis* (Travassos, 1916) Trav., 1944 (Pl. 62, Fig. 746), syn. *Platynosomum m.* T., in *Laterallus melanophaius, L. viridis viridis, Aramides cajanea cajanea, A. mangle;* Brazil.

Other species from birds:

Z. alveyi (Martin et Gee, 1949) Denton et Byrd, 1951, syn. *Eurytrema a.* M. et G., in *Junco hyemalis;* Indiana. Also in *Pipilo erythrophthalmus;* N. Carolina and Georgia, in *Zonotrichia albicollis;* Texas; in *Zonotrichia leucophrys, Melospiza georgiana* and *M. melodia;* Georgia. Flame cell formula: 2[(1+1+1+1)+(1+1+1+4)].

Z. angrensis (Trav., 1919), syn. *Platynosomum a.* T., in *Attila rufus;* Brazil.

Z. confusus Travassos, 1944, in *Formicarius ruficeps ruficeps, Cyanocorax chrysops chrysops, Procnias nudicollis;* Brazil.

Z. delectans (Braun, 1910) Travassos, 1944, syn. *Platynosoma marquesi* Trav., 1922, in *Thraupis palmarum, Campyloramphus trochilirostris lafresnajanus, Phacellodomus ruber, P. rufifrons sincipitalis, Cerchneis sparverius eidos, Speotyto cunicularia grallaria, Furnarius rufus, Cyanocorax cyanomelas, Formicarius ruficeps;* Brazil.

Z. furnarii (Vogelsang et Cordero, 1928) Travass., 1944, in *Furnarius rufus;* Uruguay.

Z. japuhybae Travassos, 1944, in *Chiroxiphia caudata* and *Xiphocolaptes albicollis albicollis;* Brazil.

Z. mazzai (Vogelsang et Cordero 1938) Trav., 1944, in *Speotyto cunicularia grallaria;* Uruguay.

Z. panduriformis (Railliet, 1900) in *Pica pica;* Europe.

Z. petiolatus (Railliet, 1900) Denton et Byrd, 1951, syn. *Dicrocoelioides p.* (R.), in *Garrulus glandarius, Merula merula;* also in *Cyanocitta cristata, Richmondena cardinalis, Hedymeles ludovicianus, Melanerpes erythrocephalus, Picus viridis, Oedicnemus oedicnemus, Passer domesticus;* Europe, U.S.A., Morocco.

Zonorchis Travassos, 1944

Generic diagnosis. — See p. 760.

Representatives from mammals:

Z. allentoshi (Foster, 1930) Trav., 1944, syn. *Platynosoma a.* F. (Pl. 91, Fig. 1101), in bile ducts of *Philander laniger pallidus;* Panama.

Z. goliath Travassos, 1946, in *Didelphis marsupialis aurita;* Brazil.

Z. komareki (McIntosh, 1939), syn. *Eurytrema k.* M., in liver of *Peromyscus gossipinus gossipinus;* Georgia.

Z. philanderi Wolfgang, 1951, in *Philander trinitatis;* Trinidad.

Bemerkungen.

Die neue Art wurde mit den Beschreibungen der folgenden Arten des Genus *Zonorchis* verglichen:

Z. microrchis (TRAVASSOS, 1916) (Genotypus)
Z. allentoshi (FOSTER, 1939)
Z. alveyi (MARTIN et GEE, 1949)
Z. angrensis (TRAVASSOS, 1919)
Z. clathratum (DESLONGCHAMPS, 1824)
Z. delectans (BRAUN, 1901)
Z. dollfusi (RICHARD, 1962)
Z. japuhybae TRAVASSOS, 1944
Z. komareki (MCINTOSH, 1939)
Z. lanciformis (OŠMARIN in SKRJABIN, 1952)
Z. philanderi (WOLFGANG, 1951)
Z. rutshurensis (BAER, 1959)
?? *Z. skrjabini* (ISAJČIKOV, 1920)
Z. verschureni (BAER, 1959)

Die typische Art des (Sub-)Genus *Skrjabinus* BHALERAO, 1936 ist nur in einem Exemplar vorhanden, dessen Bauchsaugnapf fehlt (*skrjabini* ISAJČIKOV, 1920). Auf Grund der Nachbeschreibung des Typus durch ŠTROM liegt der Genitalporus praebifurcal in der Nähe des Pharynx, im Gegensatz zur ursprünglichen Angabe und der auf dieser beruhenden Definition des (Sub-)Genus *Skrjabinus* von BHALERAO (vgl. SKRJABIN et EVRANOVA, 1952). Infolgedessen liegt es nahe, die Art *skrjabini* ISAJČIKOV, 1920, mit dem Genus *Zonorchis* in Verbindung zu bringen. Das Fehlen des Bauchsaugnapfes erschwert jedoch eine endgültige Entscheidung, da das Genus *Zonorchis* durch einen gegenüber dem Mundsaugnapf beträchtlich größeren Bauchsaugnapf definiert ist. Sollte sich herausstellen, daß bei „*Skrjabinus skrjabini*" der Bauchsaugnapf größer ist als der Mundsaugnapf, so würde *Zonorchis* ein Synonym von *Skrjabinus*. Andernfalls könnte *Zonorchis* als Untergattung von *Skrjabinus* beibehalten werden.

From Odening, 1964

Zonorchis microrchis (Travassos, 1916) Travassos, 1944

Синоним: *Platynosomum microrchis* Travassos, 1916

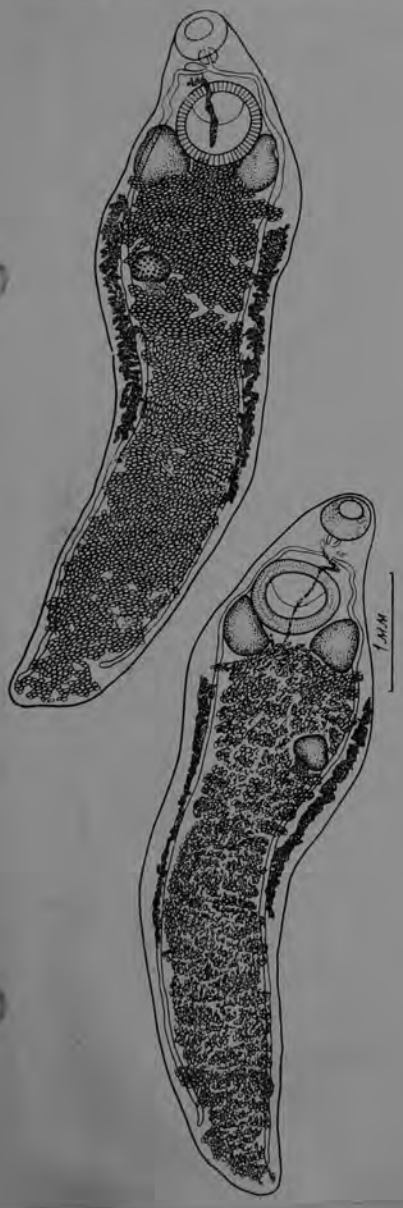
(Рис. 206 и 207)

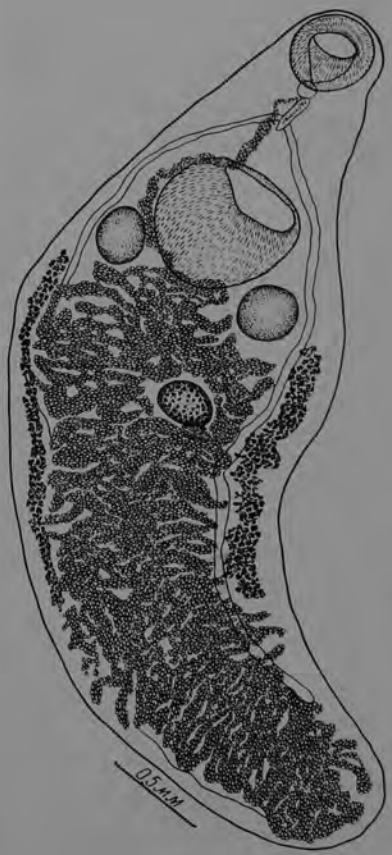
Хозяева: *Laterallus melanophaius* (Vieill.), *L. viridis viridis* (Müll.), *Aramides cajanea cajanea* (Müll.), *A. mangla* (Spix.).

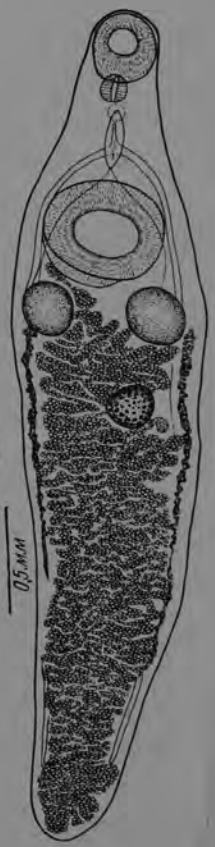
Локализация: желчный пузырь и желчные протоки печени.

Место обнаружения: Бразилия.

Описание вида (по Травассосу, 1944). Длина тела 4—6,9 мм при максимальной ширине 1—1,5 мм на уровне семенников. Тело удлиненное, почти колбовидное, со сближенными присосками. Кутикула в передней части тела усеяна коническими сосочками. Брюшная присоска очень мощная, расположена на расстоянии 0,3 мм от переднего конца тела и достигает в диаметре 0,5—0,74 мм. Ротовая присоска субтерминальная, достигает 0,30—0,42 мм в диаметре. Соотношение размеров присосок 1 : 1,6—1,86. Диаметр фаринкса 0,12—0,15 мм. Пищевод тонкий, 0,12—0,21 мм длины. Кишечные стволы тонкие, оканчивающиеся на расстоянии 0,22—1 мм от заднего конца тела. Половое отверстие лежит впереди бифуркации кишечника в зоне фаринкса. Половая бурса маленькая, содержит скрученный семенной пузырек, простатическую часть и циррус. Семенники округлые или слегка лопастные, достигающие в диаметре максимально 0,68—0,67×0,38—0,39 мм. Семенники лежат на одном горизонтальном уровне с брюшной присоской и частично лежат дорзально от нее.







—OVER—

3. *Zonorchis microrchis* (Travassos 1916) (*Dicrocoeliidae*, *Dicrocoeliinae*, *Eurytrematini*)

Lokalisation: Gallenblase.
Intensität: 2 Exemplare (*Psophia* I).
Präparat Nr.: KT 9.96–97.

Beschreibung (vgl. Abb. 3 und Tab. 3): Cuticula unregelmäßig mit Stacheln durchsetzt. Größte Körperbreite in der Region der Gonaden. Dotterstöcke extracaecal, von der Mitte der Entfernung zwischen Testes und Ovarium bis etwa zur Grenze des hintersten Körperdrittels bis -viertels reichend. Eigröße 0,029–0,032 – 0,016–0,020 mm.

Bemerkungen: Dies ist der erste Fund einer *Zonorchis*-Art bei *Psophia*. *Zonorchis microrchis* ist bisher bekannt aus *Laterallus* und *Aramides* (*Ralliformes*), Brasilien. Nach BAER (1958, zit. nach »Zoological Records«) ist die Gattung *Zonorchis* Travassos 1944) synonym mit *Platynosomum* Looss 1907. Der einzige bisher bekannte Unterschied zwischen den Arten beider Gattungen ist das Größenverhältnis von Mundsaugnapf zu Bauchsaugnapf. Dieser Umstand würde, wenn nicht für eine Synonymie, so doch mindestens für eine Einstufung von *Zonorchis* als Untergattung von *Platynosomum* sprechen. Ich sehe hier jedoch von einer Entscheidung darüber ab, da von einer *Zonorchis*-Art (*Z. alveyi*) ein Exkretionssystem beschrieben wurde, das nicht mit dem für die Familie *Dicrocoeliidae* typischen übereinstimmt.

Zonorchis microrchis (Travassos). Maße der Präparate der beiden Exemplare in mm

Körperlänge	7,0	6,8
Max. Körperbreite	2,1	2,0
Mundsaugnapf		
Länge	0,418	0,381
Breite	0,469	0,425
Pharynx		
Länge	0,154	0,154
Breite	0,161	0,147
Bauchsaugnapf		
Länge	0,689	0,660
Breite	0,704	0,704

FROM ODENING, 1964

Zonorchis allentoshi (Foster, 1939) Travassos, 1944

Синонимы: *Platynosoma allentoshi* Foster, 1939; *Eurytrema allentoshi* (Foster, 1939) Denton, 1940

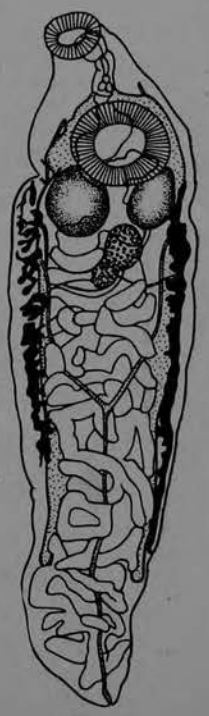
(Рис. 208)

Хозяин: *Philander laniger pallidus* Thomas.

Локализация: желчные протоки.

Место обнаружения: Панама.

Описание вида (по Фостеру из Травассоса, 1944). Длина тела 3—5,7 мм при максимальной ширине 0,9—1,5 мм. Тело не очень широкое, плотное. Кутикула тонкая, без шипов. Брюшная присоска, 0,22—0,60 мм в диаметре, расположена близ переднего конца тела. Ротовая присоска маленькая, терминальная, мощная, 0,27—0,30 мм в диаметре. За ротовой присоской следует хорошо развитой фаринкс 0,2 мм длины. Длина пищевода у вытянутых экземпляров достигает 0,27 мм. Кишечные стволы неширокие, оканчиваются на расстоянии 0,67 мм от заднего конца тела. Половое отверстие расположено медианно, на уровне фаринкса. Половая бурса слабо развита, содержит семенной пузырек; она лежит на уровне пищевода. Семенники на одном горизонтальном уровне, прилегают вплотную к заднему краю брюшной присоски. Левый семенник обычно более крупный, 0,43×0,26 мм, правый — 0,40×0,30 мм. Семенники цельнокрайные, у отдельных экземпляров имеют различную форму. Яичник эллипсоидальный, лежит субмедианно, позади семенников, его максимальный диаметр 0,24—0,28 мм. Желточники расположены латерально, достигают около 2,5 мм длины, начинаются на уровне семенников, тянутся по внутренней стороне кишечных стволов, оканчиваясь впереди конца последних. Объемистая матка лежит главным образом интрацекально, позади брюшной присоски, занимая бóльшую часть задней области тела.



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Genus ZONORCHIS Travassos, 1944

ZONORCHIS ALVEYI (Martin and Gee, 1949), new combination

FIGURE 39, *d*, *e* Denton & Byrd, 1951

Eurytrema alveyi MARTIN and GEE, Journ. Parasitol., vol. 35, pp. 61–66, 2 figs., 1949.

The material in the present collection, consisting of 48 mature specimens, agrees very closely with that recently described as *Eurytrema alveyi* by Martin and Gee (1949) in size and arrangement of internal organs. Our largest specimens are slightly longer than the original material; they measure 5.42 mm. in length. The "small protuberances" reported on the cuticula of the anterior body region of the type material are conical, retractile, sensory papillae, and are not to be confused with the tuberculations on the cuticle of *Brachylecithum rarum* and *B. tuberculatum*. The acetabulum (fig. 39, *e*), which is strongly muscular, with a deep cup-shaped lumen, is situated at the junction of the anterior and middle body-thirds. The ratio of the diameter of the oral sucker to acetabulum varies from 1:1.3 to 1:1.5. Not stressed in the original description is the characteristic manner in which the ceca pass dorsal to the medial margins of the testes, forcing these organs against the lateral body walls. The ceca continue posteriorly some distance beyond the testes, medially to the vitellaria. The ovary, which is shallowly but distinctly lobed in all of our specimens, lies slightly to the left of the midline as often as to the right of that line. The uterus, which fills most of the post-acetabular region of the body, forms characteristic anteriorly directed loops between the acetabulum and testes before ascending to the genital pore by a slightly wavy course.

Although the complete excretory system could not be worked out from our specimens, sufficient details could be seen to indicate that the system differs from that described for the type material. In our material the common collecting tubules pass anteriorly and laterally, dorsal to the medial margins of the testes, to bifurcate into anterior and posterior main collecting tubules at the level of the equator of the acetabulum (or dorsal to anterior margins of testes). Each of the anterior main collecting tubules gives rise to three accessory tubules which branch almost immediately into dorsal and ventral capillary tubules. Of the anterior pair of capillary tubules, one extends straight anteriorly along the oral sucker and the other turns ventrally at right angles along the posterior wall of the sucker. The middle pair of capillaries arises at approximately the posterior level of the cirrus sac; one passes ventrally in an anteromedial direction, the other dorsally and medially toward the posterior end of the cirrus sac. The posterior pair of capillaries arises just a short distance anterior to the junction of the anterior and posterior main tubules; one passes anteromedially toward the anterior margin of the acetabulum while the other one passes medially toward the center of the acetabulum. The origin and number of capillaries arising from the posterior main collecting tubules could not be determined. However, it seems logical that three pairs of capillaries also arise from each of the posterior main collecting tubules, as described for other species of Dicrocoeliinae, and that the complete system is very similar to that described for *Conspicuum icteridorum*.

e

d

Zonorchis alveyi was described originally from specimens from the gall bladder of the slate-colored junco, *Junco hyemalis* (Linnaeus), from the vicinities of Lafayette and Greencastle, Ind. The present paper reports specimens from the gall bladder of the red-eyed towhee, *Pipilo erythrophthalmus* (Linnaeus), from Mountain Lake, Va., Highlands, N. C., and Athens, Ga.; from the white-throated sparrow, *Zonotrichia albicollis* (Gmelin), from Houston, Tex.; from a white-crowned sparrow, *Zonotrichia leucophrys* (Forster), from Athens, Ga.; and from the swamp sparrow, *Melospiza georgiana* (Latham), and a song sparrow, *Melospiza melodia* (Wilson), from Augusta, Ga. Individual birds harbored one to eight worms, four being the average per bird. The red-eyed towhee has been found infected more often than the other hosts and harbored the largest number of worms. Two specimens, No. 36738 from the red-eyed towhee and No. 36739 from the white-throated sparrow, have been deposited in the helminthological collection of the United States National Museum.

We do not agree with Martin and Gee (1949) in assigning this form to the genus *Eurytrema*. The shape of the body, the location of the genital pore (ventral to the pharynx), the nature and extent of the vitellaria, together with the fact that the acetabulum is larger than the oral sucker (about 1.4:1), definitely indicate affinities with members of the genus *Zonorchis* Travassos, 1944. The proper designation of the species, then, is *Zonorchis alveyi* (Martin and Gee, 1949), new combination. In describing *Z. alveyi* (=*Eurytrema alveyi*) the authors compared it only with *Concinnum ludovicianae* (Petri, 1942) Travassos, 1944, a form to which it has only a superficial resemblance. From other species of the genus *Zonorchis*, with which it appears to be more closely related than to species of the genus *Concinnum*, *Z. alveyi*

can be readily distinguished by the manner in which its fairly wide ceca pass medially to the testes and vitellaria, and in having the common collecting tubules of the excretory system pass dorsal to the medial margins of the testes.

Zonorchis angrense (Travassos, 1919)

Синоним: *Platynosomum angrense* Travassos, 1919

(Рис. 209)

Хозяин: *Attila cinereus*.

Локализация: желчный пузырь.

Место обнаружения: Бразилия.

Описание вида (по Травассосу, 1944). Тело продолговатое, максимальная ширина тела находится впереди середины. Длина тела 45 мм при максимальной ширине 1,00 мм. Ротовая присоска субтерминальная, достигает 0,28 мм в диаметре. Фаринкс крупный, 0,11 мм в диаметре. Пищевод имеется. Кишечник покрыт петлями матки. Брюшная присоска 0,48 мм в диаметре, находится на расстоянии 0,12 мм от ротовой присоски. Половое отверстие лежит медианно на уровне бифуркации кишечника. Половая бурса содержит семенной пузырек. Семенники округлые, 0,24—0,28 мм в диаметре, расположены позади заднего края брюшной присоски. Яичник округлый, 0,35 мм в диаметре, лежит на некотором расстоянии позади одного из семенников. Тельце Мелиса находится позади яичника. Желточники начинаются у заднего края брюшной присоски и оканчиваются на расстоянии 1 мм от заднего конца тела. Матка мощно развита. Яйца 0,035—0,042 мм длины и 0,021—0,024 мм ширины.

Литература: Travassos, 1919, стр. 23; Travassos, 1944, стр. 163—164.

FISCHTHAL AND KUNTZ, 1965

Zonorchis borneoensis n. sp. (Figs. 4, 5)

HOSTS: Type, *Callosciurus prevostii pluto*; *C. notatus dilutus* (Sciuridae).

HABITATS: Liver and small intestine.

LOCALITIES: Ranau (*C. prevostii*) and Kasiqui (*C. notatus*), North Borneo.

DATES: 30 August (Kasiqui), 20, 24 September (Ranau), 1960.

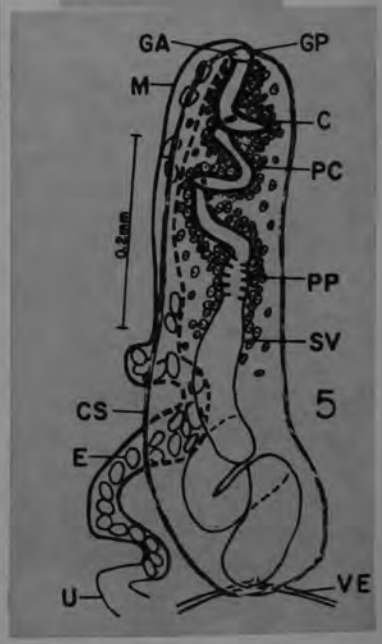
TYPES: U.S.N.M. Helm. Coll. No. 60972 (one slide of holotype and four with one paratype each).

DIAGNOSIS (based on 17 specimens, nine measured): Body elongate, tapering to blunt point at both extremities, widest at gonadal or just postgonadal level, length 1,891 to 5,758, forebody width at pharynx–esophagus junction 175 to 458, hind body width 365 to 1,495. Forebody 305 to 860, hind body 1,435 to 4,398; no preoral body in two, up to 34 long in others; postovarian space 1,070 to 3,288, postvitellarian space 310 to 1,438, postcecal space 225 to 1,115. Oral sucker 109 to 290 by 109 to 285, subterminal ventral. Acetabulum 151 to 500 by 170 to 510, elevated from body surface. Sucker length ratio 1 : 1.39 to 1.86. Pharynx 56 to 180 by 61 to 165, overlapping oral sucker dorsally. Esophagus 73 to 215 long, bifurcating 5 to 250 preacetabular. Ceca long, narrow, extending postvitellarian, terminating well short of posterior extremity, usually of unequal lengths. Excretory bladder tabular to I- to Y-shaped; stem long, slender, dorsal to uterus, commencing or bifurcating 200 to 430 postovarian (in three specimens 3,591 to 5,75 long); only one or both primary collecting tubules at junction with bladder may be inflated into short excretory arms of varying lengths; primary tubules extending to pharyngeal level; excretory pore terminal.

Testes two, symmetrical, short distance post acetabular, close together, intercecal but ma slightly overlap cecum dorsally, usually elon gate–oval, usually smooth; right testis 109 t 820 by 73 to 440; left testis 109 to 540 by 80 t 425. Vasa efferentia from anterodorsal surfac of testes entering cirrus sac side by side. Cirru sac 167 to 562 by 51 to 170, thick-walled, mus cular, elongate, straight, more or less median overlapping anterior part of acetabulum 17 t 182, containing seminal vesicle, pars prostatic prostate cells, and cirrus. Seminal vesicl tubular, much coiled, thick-walled, cellular pars prostatica short; cirrus long, sinuous, thick walled, muscular, opening into small genita atrium; prostate cells relatively few, besid distal part of seminal vesicle, the pars prosta ica and cirrus; cirrus sac protrusible. Genita pore median to slightly submedian, 120 to 36 preacetabular, 15 to 44 postpharyngeal, 44 t 175 posterior to oral sucker.

Ovary 68 to 285 by 73 to 305, essentiall round, smooth; submedian to left in nine, t right in five; slightly overlapping testicula level to 94 posttesticular. Seminal receptacl 38 to 143 by 40 to 155, posterior to ovary, con tiguous with or slightly overlapping latter dor sally. Laurer's canal muscular, sinuous, media to seminal receptacle. Mehlis' gland well de veloped, posteromedian to ovary. Oviduc thick-walled, from posterior of ovary. Vitellari follicular, in long extracecal fields but ma overlap ceca slightly and rarely protrude into intercecal space, commencing at level of posterior half of acetabulum, terminating well short of cecal at different levels; right and left vitelline ducts postovarian, uniting median to seminal receptacle and ventral to Mehlis' gland to form small reservoir. Uterus extensive, filling most of posttesticular body, mainly intercecal but may overlap ceca; descending on left and ascending on right if ovary on left, reverse condition if ovary on right, coils ascending on median side of ovary and between testes to genital pore; metraterm thick-walled, muscular, sinuous, as long as cirrus sac or shorter. Eggs numerous, operculate, 50 measuring 25 to 32 by 16 to 22.

DISCUSSION: Six specimens were taken from the liver of one *Callosciurus prevostii pluto* and two and eight, respectively, from the small intestine of two others; one worm was from the liver of one *C. notatus dilutus*. Skrjabin and Evranova (1953) recognized seven species from birds and four from mammals, while Yamaguti (1958) listed ten and four, respectively; eight additional species not listed in either volume have been described: From birds, *Z. trassosi* Jaiswal, 1957; *Z. singhi* Jaiswal, 1957; *Z. costarricensis* Brenes and Jiménez-Quirós, 1959; *Z. macroovaricus* Jiménez-Quirós and Arroyo, 1960; *Z. dureni* Vercammen-Grandjean, 1960; *Z. dollfusi* Richard, 1962; *Z. hartwichi* Odening, 1964; from mammals, *Z. australiensis* Sandars, 1958. The latter (from Australia) and three other mammalian species (from Brazil, Panama, Trinidad) are from marsupials. *Z. komareki* (McIntosh, 1939) Travassos, 1944, has been taken from two species of cricetid rodents, *Peromyscus g. gossypinus* and *Oryzomys palustris*, in the United States. Our new species from sciurid rodents differs from *Z. komareki* in geographical distribution and in having much shorter ceca, the testes entirely postacetabular and close together, and the cirrus sac overlapping the acetabulum.



Zonorchis chandleri closely resembles the species described from North American birds as *Z. petiolatum* (Railliet, 1900) by Denton and Byrd (1951) but differs from it in body shape and proportions, in having a relatively larger and more anteriorly situated acetabulum, more posteriorly located testes, and smaller and more anteriorly situated cirrus pouch. From *Z. (Dicrocoelioides) petiolatum* from European and African birds, redescribed by Dollfus (1954) and Timon-David (1960), *Z. chandleri* is easily distinguished by its more anterior and oppositely situated testes, smaller cirrus pouch, and smaller ova.

The yellow-breasted chat normally winters in Mexico and Central America. The possibility exists that the chat, while on its wintering grounds, might be exposed to infection with one of the six species of *Zonorchis* described from birds in South America by Travassos (1944). Of these *Z. japuhybae* Travassos, 1944, described from only three specimens, seems most closely related to *Z. chandleri*. The latter differs in being a smaller worm with different body proportions, in having a relatively larger acetabulum, shorter ceca, and smaller vitelline follicles which extend to the equator of the body.

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Timon-David, J. 1960. Rechérches expérimentales sur le cycle de *Dicrocoelioides petiolatum* (A. Railliet 1900) (Trematoda: Dicrocoeliidae). Ann. Parasit. 35: 251–267.

Travassos, L. 1944. Revisao da familia Dicrocoeliidae Odhner, 1910. Monogr. Inst. Oswaldo Cruz 2: 1–357.

Figure 1. ***Zonorchis chandleri*, holotype, ventral view.**

FROM: DENTON, 1972

SEE REPRINT

Zonorchis confusum Travassos, 1944

Hosts: Formicarius ruficeps ruficeps (Spix.)
Cyanocorax chrysops chrysops
Procnias nudicollis

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Zonorchis costarricensis Brenes & Jimenez-Quiros,1959

Host: Gymnostinops montezuma
Reference: Rev.Biol.Trop. 7(1):125-129. 1959.

Trematodos lanceolados y transparentes; miden 7,619 a 7,633 mm de largo por 1,450 a 1,915 mm de ancho a nivel de la zona testicular. La cutícula está cubierta de papilas finas, más evidentes en la región anterior del cuerpo y el tegumento, en su totalidad, presenta escamas espiniformes distribuidas regularmente pero en mayor número y visibilidad en ambas ventosas. El acetábulo es fuertemente musculoso y más grande que la ventosa oral; mide 0,766 a 0,793 mm de diámetro antero-posterior por 0,834 a 0,998mm de diámetro transversal, y dista de la extremidad anterior de 1,272 a 1,518 mm. La ventosa oral, subterminal, mide 0,437 a 0,492 de diámetro antero-posterior por 0,437 a 0,547 de diámetro transversal. La relación de diámetros entre las ventosas es de 1 : 1,69 a 1 : 1,87.

La faringe, subesférica y musculosa, mide 0,245 a 0,452 mm de largo por 0,191 a 0,191 de ancho. El esófago, más delgado que la faringe, mide 0,272 a 0,286 mm de largo por 0,068 a 0,095 mm de ancho. Los ciegos intestinales son delgados, ligeramente flexuosos y se extienden simétrica y lateralmente a lo largo del cuerpo hasta una distancia de 0,998 a 1,422 mm de la extremidad posterior; miden 5,472 a 5,567 mm de largo por 0,122 a 0,123 mm de ancho.

El poro genital, subcircular, prebifurcal, está situado cerca de la porción distal de la faringe. La bolsa del cirro, oblonga y muy conspicua, se inicia en la porción post-esofágica hasta llegar al nivel de la faringe; mide 0,535 a 0,547 mm de largo por 0,218 a 0,308 mm de ancho, y contiene una vesícula seminal gruesa y circunvoluta, próstata y cirro.

Los testículos, bien desarrollados, masiformes y subesféricos, se encuentran en la misma zona, debajo del acetábulo o bordeándolo parcialmente y separados entre sí por algunas asas uterinas. El testículo derecho mide 0,478 a 0,601 mm de diámetro antero-posterior por 0,478 a 0,588 mm de diámetro transversal y el izquierdo mide 0,465 a 0,588 mm de diámetro antero-posterior por 0,478 a 0,547 de diámetro transversal. De cada uno de los testículos se origina un eferente que se dirige hacia adelante, rodeando el acetábulo, para unirse con el contralateral y penetrar en la base de la bolsa del cirro.

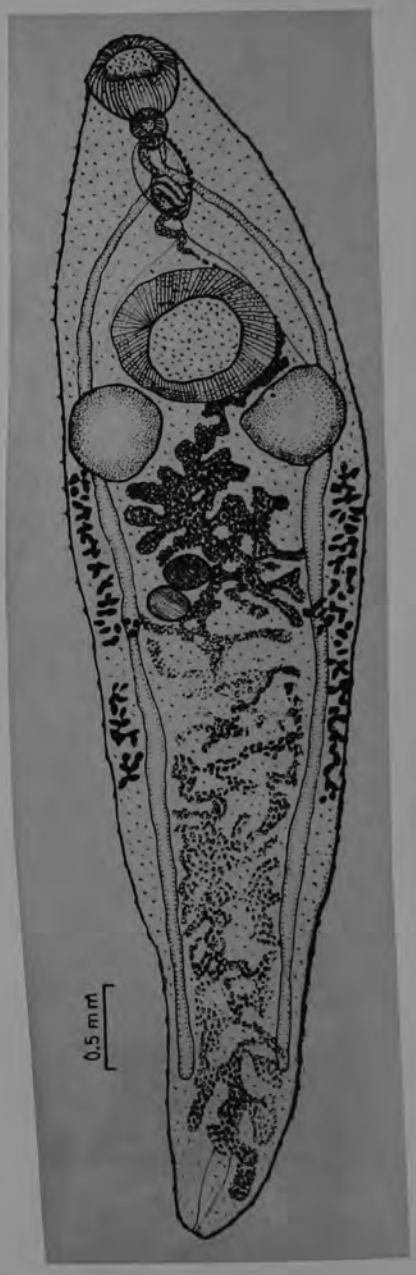
El ovario, ligeramente ovalado, situado en el lado izquierdo, coincide con el campo testicular del mismo lado. Mide 0,205 a 0,218 mm de largo por 0,287 a 0,287 mm de ancho. La glándula de Mehlis es globosa y bien desarrollada, situada inmediatamente debajo del ovario y mide 0,191 a 0,252 mm de largo por 0,259 a 0,306 mm de ancho.

Las glándulas vitelinas, localizadas en los campos laterales del cuerpo y constituidas por numerosos folículos, en su mayoría extracecales, se extienden en la casi totalidad de los ejemplares desde el borde inferior testicular hasta 2,913 a 3,283 mm de la extremidad posterior, cubriendo una longitud de 1,942 a 2,052 mm.

El útero es bastante desarrollado y está constituido por numerosas asas que se distribuyen desde la región posterior hasta la zona testicular con distribución, casi exclusiva, extracecal.

Los huevecillos son de cáscara gruesa, color castaño oscuro y operculados; miden 0,027 a 0,027 mm de largo por 0,018 a 0,020 mm de ancho.

La vesícula excretora, muy desarrollada y claviforme, se localiza sobre la línea media longitudinal en la región posterior.



HOSPEDERO: *Gymnostinops montezuma* (Lesson) Sclater.
LOCALIZACION: conductos biliares.
DISTRIBUCIÓN GEOGRÁFICA: Chitaría, Peralta, Provincia de Cartago, Costa Rica.
EJEMPLARES: Holotipo y paratipos en la colección helmintológica, Labo-

ratorio de Helmintología, Departamento de Parasitología, Facultad de Microbiología, Universidad de Costa Rica.

DISCUSION

Según SKRJABIN (1) y YAMAGUTI (5), se conocen al presente 10 especies del género *Zonorchis* Travassos, 1944, que parasitan conductos y vesícula biliar de aves. Hasta el presente no se ha reportado especie alguna de *Zonorchis* parásita de miembros de la familia Icteridæ. Nuestros ejemplares han sido clasificados de acuerdo con la descripción original de TRAVASSOS (2) como pertenecientes al género *Zonorchis*, y con base en el estudio comparativo de nuestro material con las diagnosis específicas y figuras de las especies descritas, hemos llegado a la conclusión de que se trata de una nueva especie: *Zonorchis costarricensis*, fundamentados en las siguientes características:

1. Cutícula cubierta de papilas finas, más evidentes en la región anterior del cuerpo, y tegumento con escamas espiniformes distribuidas regularmente pero en mayor número y visibilidad en ambas ventosas.

2. Mayor distancia entre el borde anterior del acetábulo y su extremidad anterior.

3. Mayor tamaño de la bolsa del cirro.

4. Mayor tamaño de la glándula de Mehlis.

5. Diferente hospedero.

RESUMEN

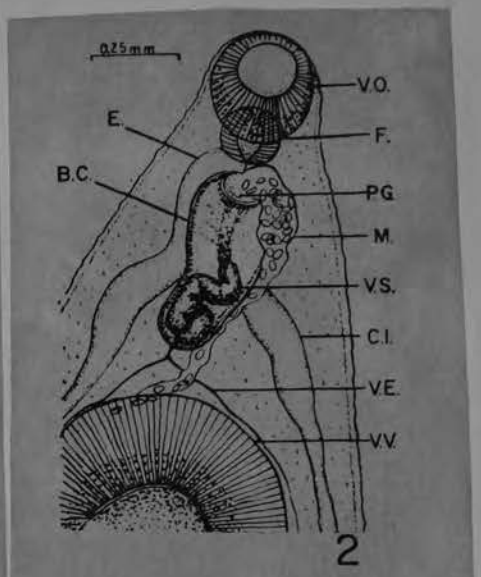
1. Se determina por vez primera para nuestro país, Centro América y México, la presencia del género *Zonorchis* Travassos, 1944.

2. Se describe una nueva especie, *Zonorchis costarricensis*, parásito de vías biliares de "oropéndola" *(Gymnostinops montezuma)*, miembro de la familia Icteridæ, en la cual, hasta el presente, no se había reportado parasitismo por especies de *Zonorchis*.

SUMMARY

1. The presence of the genus *Zonorchis* Travassos, 1944, is reported for the first time for the Middle American area North of Panama.

2. *Zonorchis costarricensis* n. sp. is described, a parasite in biliary ducts of *Gymnostinops montezuma*, this being the first record of *Zonorchis* parasitism in a member of the Icteridæ.



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Zonorchis delectans (Braun, 1901) Travassos, 1944

Синонимы: *Dicrocoelium delectans* Braun, 1901; *Platynosomum delectans* (Braun, 1901) Travassos, 1916; *Platynosomum marquesi* Travassos, 1922; *Oswaldoia marquesi* (Travassos, 1922) Travassos, 1929

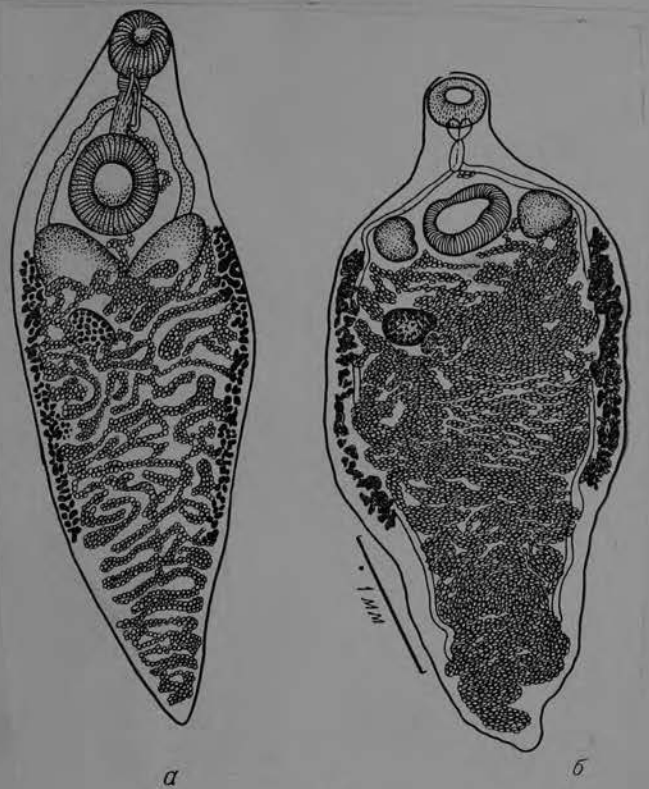
(Рис. 211 и 212)

Хозяева: птицы — *Thaupis palmarum* (Wied.), *Campylorhamphus trochilirostris lafresnayanus* (D. Orb.), *Phacellodomus ruber* (Vieill.), *Cerchneis sparverius eidos* (Peters), *Speotyto cunicularia grallaria* (Temm.), *Furnarius rufus* (Gm.), *Phacellodomus rufifrons sincipitalis* (Cab.), *Cyanocorax cyanomelas* (Vieill.), *Myiothera ruficeps*.

Локализация: желчный пузырь.

Место обнаружения: Бразилия.

Историческая справка. Браун (1901) описал трематоду из желчного пузыря бразильской птицы *Myiothera ruficeps* и наименовал ее *Dicrocoelium delectans*.



а *б*

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Dicrocoeliidae

Zonorchis dollfusi Richard, 1962

Zonorchis dollfusi, ~~n. sp.~~ RICHARD, 1962

MATÉRIEL ÉTUDIÉ :

Une douzaine de Trématodes trouvés à Périnet dans la vésicule et les canaux biliaires d'un Passériforme endémique, le *Campephagidae*, *Coracina cinerea cinerea* (P. L. S. Müller, 1776).

DESCRIPTION : (voir fig. 4).

Corps allongé, plat, sauf au niveau de l'acetabulum qui forme à sa surface un disque épais faisant hernie. Un peu plus de trois fois plus long que large, il mesure de 2.500 à 5.000 μ de longueur, sur 700 à 1.000 μ de largeur.

Surface du corps dépourvue d'épines, mais présentant des aspérités ayant l'aspect de papilles irrégulièrement réparties et seulement visibles en certains endroits, très variables suivant les spécimens.

Ventouse orale terminale, mesurant de 125 à 200 μ de diamètre. Acetabulum de trois à cinq fois plus grand (600 à 700 μ) de diamètre, soit environ 1/4 de la longueur du corps ; son centre est situé à 700 μ de l'extrémité antérieure.

Appareil digestif : entonnoir buccal suivi d'un pharynx globuleux de diamètre variable (120 à 180 μ), puis d'un court œsophage qui se dichotomise un peu en avant de l'acetabulum. Sur nos préparations, les coeca n'étaient pas visibles et nous n'avons pu suivre leur trajet vers l'arrière.

Appareil génital mâle : deux testicules situés immédiatement sous l'acetabulum, tous deux au même niveau, et séparés l'un de l'autre par l'utérus. Leur forme est variable, sphérique ou triangulaire, à bords non lobés ; ils mesurent environ 150 sur 400 μ.

Les canaux déférents n'ont pu être observés.

Poche du cirre orientée obliquement vers la gauche, située entre le pharynx et l'acetabulum ; vésicule séminale interne à la base de la poche du cirre. Cirre non visible sur nos préparations.

L'orifice génital s'ouvre au niveau d'une plage circulaire ventrale située sous le pharynx, à gauche de la ligne médiane.

Appareil génital femelle : ovaire ventral, ovale ou sphérique mesurant de 120 à 180 μ sur 150 à 200 μ, situé à droite en arrière des testicules et séparé de ces derniers par l'utérus. La base de l'ovaire est située à peu près sur la ligne équatoriale.

Oviducte non visible sur nos préparations.

Réceptacle séminal dorsal, sphérique, volumineux mesurant 60 μ de diamètre, et situé légèrement en arrière de l'ovaire.

L'utérus est très développé, et s'étend en une seule nappe depuis l'extrémité postérieure jusqu'à la région intertesticulaire, sauf au niveau de l'ovaire qu'il contourne. Depuis la zone intertesticulaire jusqu'au pharynx, l'utérus plus étroit forme un canal qui passe dorsalement à l'acetabulum et atteint l'orifice génital, situé sous le pharynx à droite de l'orifice genital mâle.

Les vitellogènes sont constitués de nombreux petits follicules formant deux bandes longitudinales très étroites comprises entre l'utérus et les parois latérales du corps, et s'étendant depuis la base des testicules jusqu'au niveau correspondant à peu près à la limite des tiers moyen et postérieur de la longueur du corps. Les vitelloductes partent de la région antérieure des vitellogènes. Seul le vitelloducte droit est bien visible ; il est horizontal, situé en arrière de la vésicule séminale, et ventral par rapport à celle-ci.

Nous n'avons vu ni le point d'aboutissement des vitelloductes dans l'oviducte, ni la glande de Mehlis.

Les œufs petits, très nombreux sont ovales et mesurent de 30 à 37 μ, sur 20 à 26 μ.

Appareil excréteur : seule, la vessie excrétrice, très courte est visible.

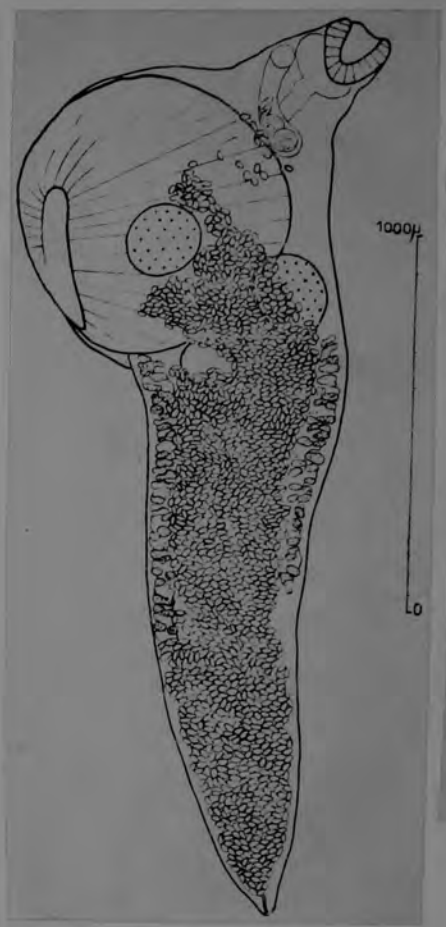


Fig. 4. — *Zonorchis dollfusi*, n. sp. chez *Coracina cinerea cinerea* (P. L. S. Müller), (n° 681 E), Périnet, le 27 mars 1961. Corps entier, vue latéro-ventrale.

-OVER-

Discussion :

Les spécimens examinés se distinguent immédiatement des *Zonorchis* déjà connus cf. Travassos, 1944, pp. 153-171), par le grand développement de l'acetabulum qui occupe toute la largeur du corps. L'espèce la plus proche est *Zonorchis confusum* decrit du Brésil par L. Travassos (1944) chez *Formicarius ruficeps ruficeps* (Spix) (*Formicariidae*), *Cyanocorax chrysops chrysops* (Vieill.) (*Corvidae*) et *Procnias nudicollis* (Vieill.) (*Cotingidae*).

Ces deux *Zonorchis* ont en commun la forme générale du corps, la position des ventouses, de l'ovaire, des testicules, des orifices génitaux, les dimensions du corps, des glandes génitales et des œufs, la position et la forme des vitellogènes.

Cependant ils diffèrent par la taille des deux ventouses et le rapport diamètre ventouse orale/diamètre acetabulum qui est compris entre 1 : 3,3 et 1 : 5 chez *Z. dollfusi*, alors qu'il est compris entre 1 : 2,04 et 1 : 2,68 chez *Z. confusum* travassos, 1944.

Dicrocoeliidae

Orecchia and Paggi, 1964

Descrizione di *Zonorchis elephantuli* n. sp.

Corpo irregolarmente lanceolato, con maggior larghezza generalmente a livello delle gonadi. Talvolta in alcuni esemplari l'estremità posteriore del corpo si presenta molto assottigliata; lunghezza mm 1,68-3,42, larghezza massima mm 0,95-1,69. Cuticola con papille coniche particolarmente visibili alla estremità posteriore del corpo. Ventosa orale subterminale di forma globosa rotondeggiante; lunghezza mm 0,24-0,39, larghezza mm 0,24-0,37. Ventosa ventrale rotondeggiante, situata in parte nel terzo anteriore del corpo, e in parte nel terzo medio, di dimensioni notevolmente maggiori rispetto alla ventosa orale. Lunghezza della ventosa ventrale mm. 0,53-0,80, larghezza mm. 0,55-0,81. Il rapporto fra la lunghezza della ventosa ventrale e la lunghezza della ventosa orale è di 1 : 1,90-2,33. Faringe rotondeggiante, segue immediatamente la ventosa orale; lunghezza mm 0,11-0,15, larghezza mm 0,11-0,15. Esofago si biforca dorsalmente alla tasca del cirro a livello circa della metà del terzo anteriore del corpo. Ciechi intestinali semplici decorrono dapprima dorsalmente alla ventosa ventrale poi parallelamente ai lati del corpo e terminano a livello della metà del terzo posteriore del corpo stesso. Vescicola escretrice tubulare, raggiunge prossimalmente il livello della ghiandola di Melhis. Poro escretore situato all'estremità posteriore del corpo. Gonadi rotondeggianti, situate nel terzo medio del corpo. Testicoli due di grandezza quasi uguale, rotondeggianti, simmetrici rispetto all'asse longitudinale del corpo, situati lateralmente alla ventosa ventrale, a livello del terzo posteriore di essa; lunghezza del testicolo destro mm 0,22-0,43, larghezza mm 0,24-0,36; lunghezza del testicolo sinistro mm 0,22-0,42, larghezza mm 0,26-0,37. Deferenti decorrono verso l'alto e sboccano insieme nella tasca del cirro. Tasca del cirro ben sviluppata di forma allungata, situata dorsalmente alla ventosa ventrale e ventralmente rispetto all'esofago e alla biforcazione dei ciechi; si estende dal livello del faringe fino a circa il terzo anteriore della ventosa ventrale e contiene la vescicola seminale ravvolta, a cui fa seguito la pars prostatica e il cirro. Ovaio situato generalmente a sinistra della linea mediana del corpo posteriormente al testicolo sinistro dal quale è separato da alcune anse uterine; lunghezza mm 0,11-0,22, larghezza mm 0,16-0,27. Vitellogeni costituiti da numerosi piccoli follicoli di forma allungata trasversalmente; formano due fascie in corrispondenza dei lati del corpo e ricoprono lo spazio compreso tra le anse uterine e il margine del corpo; iniziano prossimalmente a livello dei testicoli; spesso il livello a cui iniziano i vitellogeni destro e sinistro presenta nello stesso individuo piccole differenze; distalmente terminano di regola poco sotto il [illegible] di unione del terzo medio con il terzo posteriore del corpo, [illegible] spesso leggermente diversi nei due lati. Vitellodotti si [illegible] sotto all'ovaio, si dirigono verso il centro del corpo e si [illegible] recettacolo vitellino molto piccolo, situato posteriormente

Receptaculum seminis ben sviluppato, situato dorsalmente e leggermente a sinistra ed inferiormente all'ovaio; il suo margine anteriore supera di poco il margine posteriore dell'ovaio stesso. Canale di Laurer si apre sulla superficie dorsale del corpo a livello della porzione distale dell'ovaio. Ghiandola di Melhis si estende dorsalmente e posteriormente all'ovaio: in essa penetrano dall'alto un dotto formato dall'ovidotto, dal canale di Laurer e dal condotto del receptaculum seminis, e dal basso, il vitellodotto. Utero costituito da anse discendenti e ascendenti che occupano gran parte della porzione media e posteriore del corpo: anteriormente l'utero, al di sopra dei testicoli, diviene sottile e passa dorsalmente o lateralmente alla ventosa ventrale con decorso leggermente serpigginoso. Poro genitale situato in posizione quasi mediana a livello del faringe. Uova opercolate di colore che varia dal giallo al marrone scuro in rapporto al grado di maturazione: misurano mm 0,030-0,040 × 0,019-0,025.

Discussione

Alcuni caratteri morfologici ed in particolare la posizione dei testicoli (simmetrici rispetto all'asse longitudinale del corpo) e le notevoli dimensioni della ventosa ventrale ci hanno indotto a riferire i parassiti raccolti al genere *Zonorchis* Travassos, 1944 tanto più che questo genere comprende specie parassite di mammiferi oltre che di uccelli.

Le specie del genere *Zonorchis* che, per la forma del corpo, più si avvicinano ai trematodi da noi trovati sono: *Z. confusum* Travassos, 1944; *Z. delectans* (Braun, 1901) Travassos, 1944; *Z. mazzai* (Vogelsang e Cordero, 1928) Travassos, 1944; *Z. philanderi* Wolfgang, 1951; *Z. travassosi* Jaiswal, 1957. Tuttavia i trematodi da noi raccolti si differenziano dalle specie *delectans, mazzai, philanderi* e *travassosi* per le dimensioni delle uova, per le maggiori dimensioni della ventosa ventrale e per il rapporto fra le ventose. Infatti nella specie da noi trovata il rapporto fra la lunghezza della ventosa ventrale e la lunghezza della ventosa orale è maggiore che in tutte le specie citate. Inoltre i trematodi da noi trovati si differenziano dalla specie *Z. confusum* per i seguenti caratteri: dimensioni del corpo, livello a cui iniziano i vitellogeni, dimensioni delle uova, rapporto tra le ventose.

Oltre le differenze morfologiche sopra riportate che non permettono di identificare i parassiti da noi trovati con alcuna specie nota del genere *Zonorchis*, il fatto che nessuna specie di questo genere sia stata descritta in *Elephantulus rozeti* né in altri insettivori e che le sole specie segnalate in mammiferi siano parassite di marsupiali e roditori rappresentano, a nostro avviso, dei fattori di notevole importanza e di per sé sufficienti a far considerare gli esemplari da noi rinvenuti e descritti come appartenenti a specie nuova.

Ospite definitivo: *Elephantulus rozeti*.

Localizzazione: vie biliari.

Luogo di provenienza: El Bayad (Algeria).

Esemplari depositati presso l'Istituto di Parassitologia dell'Università di Roma.

Zonorchis furnarii (Vogelsang et Cordero, 1928)

Синоним: *Platynosomum furnarii* Vogelsang et Cordero, 1928

Хозяева (по Травассосу, 1944): птицы — *Furnarius rufus, Thraupis palmarum, Phacellodomus rufifrons sincipitalis, Campilor trochilirostris lafresnayanus, Cyanocorax cyanomelas, Phacelodemus ruber, Cerchneis sparverius eidos.*

Локализация: желчный пузырь.

Место обнаружения: Южная Америка.

Описание вида (по Фогельзангу и Кордеро, 1928). Длина тела 2 мм, при максимальной ширине 1 мм на уровне семенников. Диаметр брюшной присоски достигает 0,58 мм, а ротовой — 0,29 × 0,32 мм; расстояние между присосками 0,14 мм. Соотношение размеров присосок 1 : 1,9. Фаринкс маленький, мышечный, достигает 0,1 мм в диаметре. Пищевод тонкий и очень короткий. Половое отверстие лежит приблизительно на медианной линии, на уровне кишечного развилка. Циррус слабомышечный. Семенники расположены рядом с брюшной присоской; ширина их превышает длину, очертания неправильные, а размер достигает 0,32 × 0,18 мм и 0,29 × 0,21 мм. Яичник поперечно-удлиненной формы, отделен от семенников петлями матки. Тельце Мелиса достигает 0,072 × 0,036 мм и расположено позади яичника. Желточники лежат у латеральных краев тела, причем правый крупнее левого. Петли матки занимают всю заднюю часть тела. Размер яиц 0,027 × 0,018 мм.

Травассос указывает, что у него создалось впечатление об идентичности этого вида с *Zonorchis mazzai*, от которого он отличается только большим размером тела, что как дифференциальный признак не имеет никакого значения.

Фогельзанг и Кордеро описали свой вид от *Furnarius rufus*. Травассос (1944) находил этот вид у целого ряда новых хозяев, перечисленных нами выше, причем он в своей работе приводит измерения *Platynosomum furnarii* от различных птиц. Ниже мы приводим максимальные и минимальные размеры отдельных органов этой трематоды, суммируя данные Травассоса.

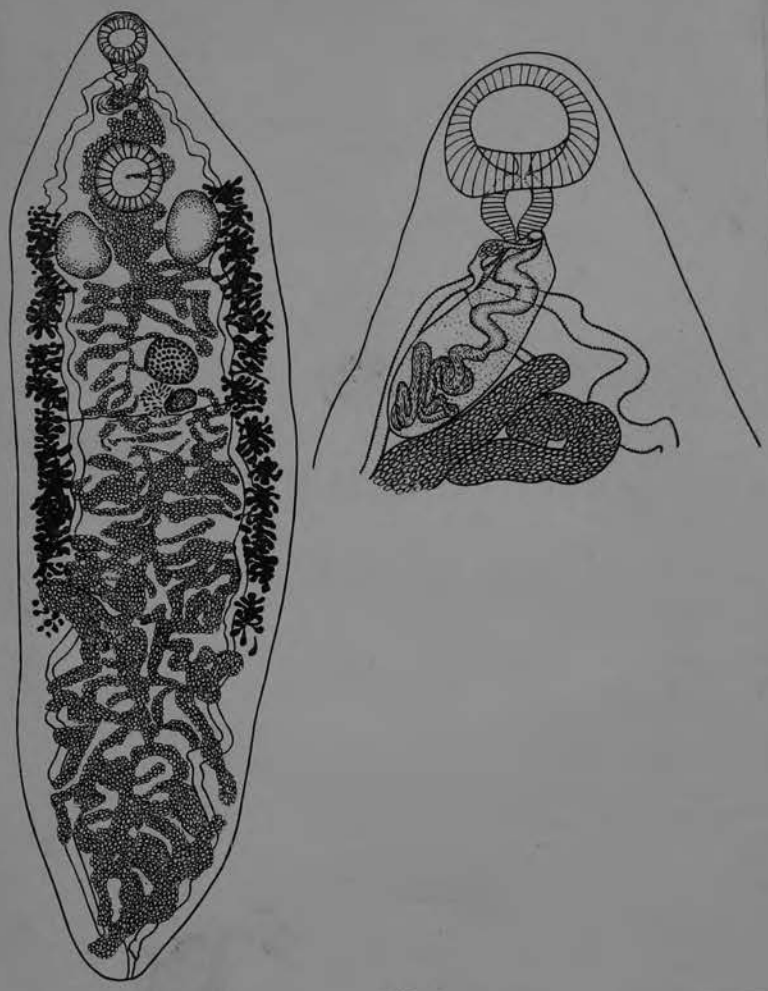
Длина тела достигает 2,06—5,28 мм, ширина 0,521—2,61 мм. Диаметры ротовой присоски 0,153 × 0,161 мм и 0,351 × 0,321—0,397 мм. Диаметры брюшной присоски 0,380 × 0,336 мм и 0,640 × 0,670 мм. Размер яиц 0,030—0,039 × 0,026 мм.

Травассос (1944) считает этот вид идентичным *Zonorchis mazzai* (Vogelsang et Cordero, 1928).

Литература: Fogelsang e Cordero, 1928; Travassos, 1944, стр. 161—163.

Zonorchis goliath Travassos, 1945
(Рис. 212а)

Хозяин: опоссум (*Didelphis marsupialis aurita*).
Локализация: желчные протоки.
Место обнаружения: Бразилия.
Описание вида (по Травассосу, 1945). Тело крупное и тонкое, 9,5—13,0 мм длины, максимальная ширина 2,5—3,7 мм в зоне семенников.



212а

8. *Zonorchis hartwichi* ~~n. sp.~~) ODENING, 1964

Wirt Herkunft. *Acridotheres cristatellus* (L.), Hau benmaina (Passeriformes, Sturnidae) / Importier aus der Demokratischen Republik Vietnam an 29. 11. 1962, Sektion am 21. 12. 1962.

Lokalisation. Gallengänge der Leber und Gallen blase.

Präparat-Nr. kT 13/50 (5 Exemplare).

Beschreibung (vgl. Abb. 9 und Tabelle 5).

Cuticula bisweilen mit winzigen dichtstehende Papillen besetzt; Körper lanzettförmig, 5—6,2 mm lang, maximale Breite meist auf der Höhe der Teste 1,1 bis 1,5 mm; Mundsaugnapf ziemlich klein; Pha rynx sehr kräftig; Bauchsaugnapf stark entwickel innerhalb des ersten Körperdrittels liegend; Oeso phagus etwa so lang wie Pharynx oder nur weni länger; Darmgabelung in der Mitte zwischen Hinte rand des Pharynx und Vorderrand des Bauchsaug napfes; Darmschenkel höchstens bis zur Mitt zwischen hinterer Grenze der Dotterstöcke un Körperhinterende reichend; Dotterstöcke auf d Höhe des Ovariums unmittelbar hinter den Test beginnend, ein Viertel bis ein Drittel der Körpe länge einnehmend, überwiegend extracaecal gelegen, aus zahlreichen kleinen Dotterfollikeln bestehend; Receptaculum seminis hinter dem Ovarium; Genitalporus am Hinterrand des Pharynx; Testes größer als Ovarium, rundlich bis längsoval, meist glattrandig, unmittelbar hinter dem Bauchsaugnapf parallel nebeneinander gelegen; Ovarium glattrandig, rundlich bis querelliptisch, submedian oder stärker seitlich verschoben dicht hinter den Testes gelegen; Eigröße 0,032—0,037 × 0,021 bis 0,025 mm.

Typus. Das Abb. 9 und Tabelle 5, Spalte 4 zugrunde liegende Exemplar.

Tabelle 5. *Zonorchis hartwichi* n. sp., Maße der 5 Exemplare in mm (Maße des Typus in der 4. Spalte von links nach rechts)

Körperlänge	6.2	5	4,5	5,5	5,2
Maximale Körperbreite	1,1	1,5	1,1	1,3	1,1
Mundsaugnapf					
Länge	0,257	0,264	0,228	0,279	0,257
Breite	0,367	0,294	0,294	0,404	0,294
Bauchsaugnapf					
Länge	0,661	0,727	0,675	0,705	0,624
Breite	0,719	0,609	0,624	0,624	0,609
Pharynx					
Länge	0,235	0,198	0,198	0,242	0,154
Breite	0,279	0,220	0,206	0,228	0,198
Oesophagus-Länge	0,161	0,169	0,117	0,286	0,220
Testes					
Länge	0,536 bis 0,609	0,323 bis 0,440	0,389 bis 0,484	0,440 bis 0,506	0,440
Breite	0,404 bis 0,448	0,624 bis 0,822	0,294 bis 0,404	0,352 bis 0,404	0,375 bis 0,382
Ovarium					
Länge	0,242	0,191	0,191	0,228	0,184
Breite	0,294	0,308	0,294	0,279	0,257
Dotterstöcke, Länge	1,431 bis 1,798	1,101 bis 1,285	0,771 bis 1,285	1,248 bis 1,395	1,358 bis 1,505
Cirrusbeutel, Länge	0,323	0,257	0,367	0,484	0,367

Zonorchis japuhybae Travassos, 1944

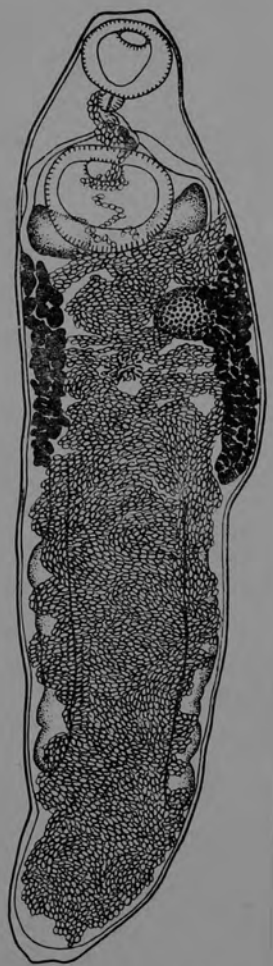
(Рис. 213)

Хозяева: *Chiroxiphia caudata* (Schaw. et Nodder), *Xichocolaptes albicollis albicollis* (Vieill.).

Локализация: желчный пузырь.

Место обнаружения: Бразилия.

Описание вида (по Травассосу, 1944). Длина тела достигает 3,6—6,4 мм при максимальной ширине 0,8—0,9 мм на уровне семенников. Тело удлиненное, колбовидное, с сильно редуцированной частью впереди брюшной присоски. Кутикула с коническими, неравномерно расположенными сосочками. Брюшная присоска относительно крупная, 0.42 × 0,45—0,50 мм, расположена очень близко от ротовой присоски. Ротовая присоска субтерминальная, 0,30 × 0,35—0,38 × 0,41 мм. Соотношение размеров присосок 1 : 1,26—1,38. За ротовой присоской располагается фаринкс 0,10—0,13 мм длины. Пищевод короткий 0,12 мм длины. Кишечные стволы почти прямые, не особенно тонкие, оканчиваясь на расстоянии 0,6—0,8 мм от заднего конца тела. Половое отверстие лежит на уровне фаринкса. Половая бурса 0,15—0,22 × 0,09—0,10 мм, хорошо развита, содержит

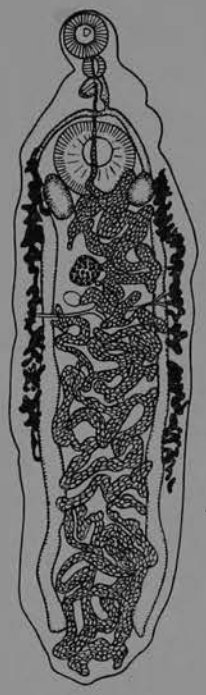


Zonorchis komareki (McIntosh, 1939) Travassos, 1944

Синоним: *Eurytrema komareki* McIntosh, 1939

(Рис. 214)

Хозяин: *Peromyscus gossypinus gossypinus* (Le Conte).
Локализация: печень.
Место обнаружения: США.
Описание вида (по Мак Интошу, 1939). Овальное тело дости-



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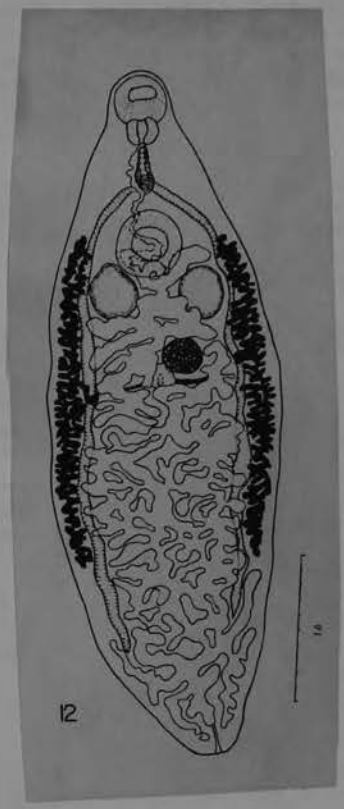


From: Oryzomys palustris
in La.
(Lumsden & Zischke, 1961)

– OVER –

Zonorchis komareki (McIntosh, 1939) Travassos, 1944
(Figures 12 to 13.)

Host.—Oryzomys palustris (Harlan) [new host record].

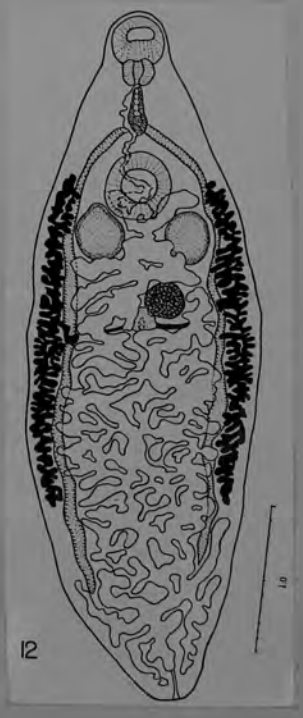
Location.—Bile duct.

Locality.—Bonnet Carre Spillway at Norco, St. Charles Parish, Louisiana [new locality record].

Diagnosis (based on six mature specimens).—*Zonorchis.* Body lanceolate, 3.675 to 5.250 long by 1.487 to 1.735 wide. Cuticle aspinose. Forebody 0.743 to 1.062 long. Body posterior to anterior edge of acetabulum 2.932 to 4.188 long. Oral sucker subterminal, 0.319 to 0.390 long by 0.354 to 0.390 wide. Acetabulum in anterior third of body, 0.425 to 0.496 long by 0.460 to 0.531 wide. Sucker ratio from 1:1.27 to 1.36. Prepharynx short, appearing absent. Pharynx 0.177 to 0.390 long by 0.212 to 0.390 wide. Esophagus extending from pharynx to half the distance from posterior border of oral sucker to anterior border of acetabulum. Ceca two, narrow extending along sides of body lateral to acetabulum ending blindly in about posterior sixth of body. Genital pore at level of posterior margin of pharynx opening into very shallow genital atrium. Testes two, roundish, juxtaposed at posterior border of acetabulum, 0.248 to 0.425 long by 0.212 to 0.354 wide. Cirrus sac ventral to esophagus, extending from genital atrium to cecal bifurcation; anterior two thirds containing unspined cirrus; posterior third containing convoluted internal seminal vesical and surrounding prostate gland cells. Ovary roundish, posttesticular, sinistral to mid-line of body, 0.212 to 0.283 long by 0.212 to 0.319 wide. Seminal receptacle dorsal to dextral margin of ovary. Ootype and Mehlis' gland median. Laurer's canal not observed. Vitellaria lateral to ceca, extending from level of anterior border or midlevel of acetabulum to posterior third of body. Vitelline reservoir dextral to ovary. Uterus intercecal, occupying most of hindbody, intruding between ovary and testes, perforating genital atrium dextral to cirrus sac. Eggs 0.025 to 0.031 long by 0.011 to 0.022 wide. Posterior portion of excretory vesicle tubular, anterior extension not observed.

Discussion.—The bile duct of a single rice rat, *Oryzomys palustris,* from the Bonnet Carre Spillway at Norco, Louisiana, was found infected with *Zonorchis komareki.* In subsequent collections of rice rats at the Goodhope oil field at Norco, one was found infected with *Z. komareki.* This rat died in the trap and partial cytolysis and contraction left the worms in a much distorted condition. Measurements of these five trematodes are not included. However, the diagnosis for these specimens is comparable to that of the six specimens given above, and both groups are unquestionably members of the same species.

Since no life cycle has been elucidated for any member of the genus *Zonorchis,* the host specificity and morphological variation of the adult specimens of several species remain an enigma. It is doubtful if studies of the adults from natural infections will yield much definitive information concerning the status of several species of *Zonorchis.* Present information indicates a great degree of overlap and convergence of adult characteristics in this genus. Our specimens from the rice rat closely resemble *Zonorchis komareki,* though they differ in; (1) size (3.68 to 5.25 long by 1.49 to 1.74 wide vs. 2.8 long by 0.8 wide in *Z. komareki*); (2) sucker ratio (1: 1.27 to 1.36 vs. 1: 1.72 in specimens for record collection); (3) ceca extending only to posterior sixth of body (as compared to posterior end of body in *Z. komareki*); and (4) in a sinistral as compared with a dextral ovarian position. These small differences do not seem to warrant the naming of a new species at this time.



OTHER RECORDED SPECIES OF *ZONORCHIS*

All other recorded species of *Zonorchis* are, with one exception, from the gall-bladder, and occasionally from the bile-ducts, of birds from Brazil and Uruguay, South America. They are *Z. angrense* (Travassos, 1919), *Z. confusum* Travassos, 1944, *Z. mazzui* (Vogelsang and Cordero, 1928) and *Z. microrchis* (Travassos, 1916).

McIntosh (1939) described *Eurytrema komareki* from the liver of the white-footed mouse *Peromyscus gossypinus gossypinus* (Le Conte, 1853) from Georgia, North America. Travassos (1944) placed it in the genus *Zonorchis*.

Z. komareki closely resembles *Z. allentoshi*. Since *Z. komareki* was described from only ' 2 entire specimens and fragments of what appear to be parts of 2 or 3 other specimens' from one host, it is possible that *Z. allentoshi* may be synonymous with *Z. komareki*. In that case, infestation in the white-footed mouse may prove to be incidental.

Z. komareki Sanders, 1958.
Syn: Z. allentoshi
Syn. Platynosomum

Familia.—DICROCOELIIDAE Odhner, 1911

Subfamilia.—Dicrocoeliinae Looss, 1899

Zonorchis macroovaricus n. sp.

Jimenez & Arroyo,1960 Rev.Biol.Trop., 8:

Tremátodos lanceolados y transparentes; miden 3,657 mm a 3,708 mm de largo por 0,523 mm a 0,762 mm de ancho a la altura del tercio medio. La cutícula está cubierta de pequeñas papilas cónicas, más evidentes en la extremidad anterior. El tegumento presenta numerosas escamas espiniformes, que van siendo menos numerosas hacia la extremidad posterior. La ventosa oral es sub-terminal y mide 0,261 mm a 0,290 mm de largo por 0,262 mm a 0,290 mm de ancho. La faringe, alargada y musculosa, mide 0,064 mm a 0,069 mm de largo por 0,092 mm a 0,106 mm de ancho. El esófago, más delgado que la faringe, mide 0,049 a 0,052 mm de ancho por 0,082 mm por 0,087 mm de largo. Los ciegos intestinales son de espesor similar al del esófago; en las ramas iniciales que rodean el acetábulo, se extienden, ligeramente flexuosos simétrica y lateralmente a lo largo del cuerpo; miden 0,050 mm a 0,053 mm de mayor ancho por 0,038 mm a 0,045 mm de menor ancho y se extienden. el derecho de 2,890 mm a 2,912 mm y el izquierdo de 2,749 mm a 2,762 mm. Las porciones terminales están casi totalmente cubiertas por las asas descendentes uterinas. El acetábulo, muy desarrollado y musculoso, más grande que la ventosa oral, está situado en el cuarto anterior del cuerpo; mide 0,395 mm a 0,399 mm de largo por 0,468 mm a 0,491 mm de ancho. Dista de la extremidad anterior de 0,578 mm a 0,584 mm. La relación de diámetros entre las ventosas es de 1: 1,5 a 1: 1,6.

El poro genital, subcircular, prebifurcal, está situado cerca de la porción distal de la faringe. La bolsa del cirro, oblonga y paraesofágica, mide de 0,166 mm a 0,170 mm de largo por 0,079 mm a 0,082 mm de ancho, y contiene vesícula seminal circunvoluta, próstata y cirro.

Los testículos, relativamente pequeños, masiformes y subesféricos, se encuentran en la misma zona, debajo del acetábulo, intracecales, pero separados entre sí por algunas asas uterinas. El testículo derecho mide 0,101 mm a 0,138 mm de diámetro ántero-posterior por 0,115 mm a 0,152 mm de diámetro transversal y el izquierdo mide 0,124 mm a 0,133 mm de diámetro ántero-posterior por 0,116 mm a 0,138 mm de diámetro transversal.

El ovario, grande y reniforme, situado en el lado derecho, coincide con el campo testicular del mismo lado. Mide 0,179 mm a 0,179 mm de diámetro antero-posterior por 0,225 mm a 0,247 mm de diámetro transversal. La glándula de Mehlis es elipsoidal y bien desarrollada, situada debajo del ovario, y mide 0,110 mm a 0,115 mm de diámetro ántero posterior por 0,082 mm a 0,142 mm de diámetro transversal.

Las glándulas vitelinas, localizadas en los campos laterales del cuerpo, en el tercio medio, están constituídas por numerosos folículos, en su mayoría extracecales. Toman inicio en la zona infratesticular para terminar muy antes de la finalización de los ciegos. Se extiende: la derecha 1,253 mm a 1,524 mm y la izquierda 1,391 mm a 1,473 mm.

4

El útero es muy desarrollado y está constituído por una rama ascendente y otra descendente, que con numerosas asas, en su mayoría intracecales, van desde la zona testicular hasta la región posterior del cuerpo. La rama descendente, particularmente desarrollada deja tan sólo un claro correspondiente a los ciegos que sobrepasan las vitelinas pero ocupan totalmente el cuarto posterior del cuerpo.

Los huevecillos, de cáscara gruesa, operculados y color castaño oscuro, miden 0,032 mm a 0,034 mm de largo por 0,020 mm a 0,027 mm de ancho.

La vesícula excretora no fue visible en nuestros ejemplares.

HUÉSPED: *Pteroglossus t. torquatus* (Gmelin).

LOCALIZACIÓN: Conductos biliares.

DISTRIBUCIÓN GEOGRÁFICA: El Silencio, Tilarán, Provincia de Guanacaste, Costa Rica.

EJEMPLARES: Holotipo y paratipos en la colección helmintológica del Laboratorio de Helmintología, Departamento de Parasitología, Facultad de Microbiología, Universidad de Costa Rica, bajo el No. 200-26.

DISCUSION

Según SKRJABIN (2) y YAMAGUTI (4), se conocen al presente 10 especies del género *Zonorchis* Travassos, 1944, que parasitan conductos y vesícula biliar de aves. BRENES y JIMÉNEZ (1) en 1959, describieron otra nueva especie *Z. costarricensis*.

Nuestros ejemplares han sido clasificados de acuerdo con la descripción original de TRAVASSOS (3) como pertnecientes al género *Zonorchis* y, con base en el estudio comparativo de nuestro material con las diagnosis específicas y figuras de las 11 especies hasta el presente descritas, hemos llegado a la conclusión de que se trata de una nueva especie (*Zonorchis macroovaricus*).

De las especies anteriormente descritas presenta tan sólo alguna analogía con *Z. angrense*, difiriendo de esa, sin embargo, por las siguientes características:

1. Mayor tamaño relativo y diferente forma del ovario (reniforme).
2. Diversa topografía de la glándula de Mehlis (en *Z. angrense* está situada hacia la línea mediana; en nuestros ejemplares hacia el campo lateral derecho).
3. Inicio y extensión de las vitelinas (en *Z. angrense* éstas se inician en la zona acetabular extendiéndose hasta la porción terminal de los ciegos; en nuestros ejemplares se inician en la zona infratesticular y terminan muy antes de la parte terminal de los ciegos).

RESUMEN

Se determina por primera vez para nuestro país, la presencia de *Lutztrema obliquum* (Travassos, 1917) Travassos, 1941, en *Gymnostinops monte-*

Zonorchis mazzai (Vogelsang et Cordero, 1928) Travassos, 1944

Синоним: *Platynosomum mazzai* Vogelsang et Cordero, 1928

(Рис. 215)

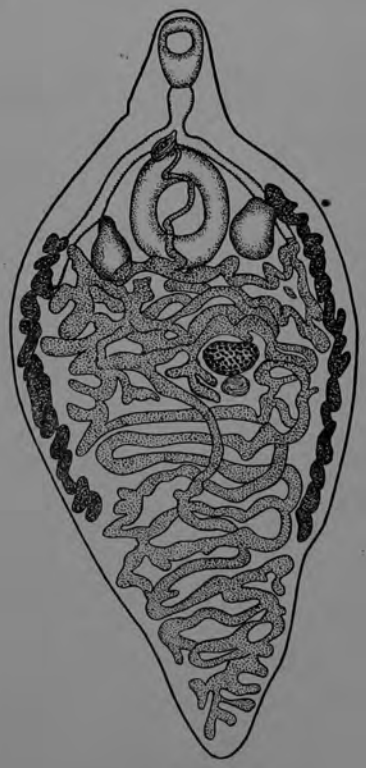
Хозяин: *Speotyto cunicularia grallaria* (Temm.).
Локализация: желчный пузырь.
Место обнаружения: Уругвай.

Историческая справка. В 1928 г. Фогельзанг и Кордеро описали два вида рода *Platynosomum*: *P. mazzai* из желчного пузыря *Speotyto cunicularia grallaria* и *P. furnarii* из желчного пузыря *Furnarius rufus*.

Травассос (1944) перенес эти виды в свой новый род *Zonorchis*, высказав предположение об идентичности обоих видов.

Описание вида (по Травассосу, 1944). Длина тела достигает 4,8 мм, при максимальной ширине 1,6 мм на уровне зоны семенников. Тело постепенно суживается к обоим концам. Брюшная присоска, достигающая 0,69 мм в диаметре, отстоит на 0,32 мм от ротовой присоски; размер ротовой присоски 0,32 × 0,36 мм. Соотношение размеров присосок 1 : 2,02. Маленький круглый фаринкс достигает 0,14 мм в диаметре. Пищевод тонкий, почти в два раза длиннее фаринкса. Половое отверстие находится на уровне бифуркации кишечника и слегка сдвинуто влево от медианной линии. Половая бурса слабомышечная, 0,10 мм длины при ширине 0,07 мм. Семенники неправильной формы лежат на одном горизонтальном уровне по обе стороны и несколько позади брюшной присоски; размер их 0,32—0,40 мм длины при ширине 0,29—0,36 мм. Поперечно-овальный яичник достигает 0,47 мм ширины при длине 0,32 мм, отделяется от кишечных стволов несколькими петлями матки. Тельце Мелиса, достигающее 0,14 × 0,32 мм, лежит позади яичника. Лауреров канал трудно различим. Желточники лежат латерально от кишечных стволов, причем левый крупнее. Петли матки занимают все тело от семенников до заднего конца, заходя за область кишечных стволов. Яйца с толстой оболочкой достигают 0,027 × 0,018 мм.

Литература: Vogelsang e Cordero, 1928, стр. 617; Travassos, 1944, стр. 160.



ZONORCHIS PETIOLATUM (Railliet, 1900), new combination

FIGURE 40, *a–d*

Denton & Byrd, 1951

Dicrocoelium petiolatum RAILLIET, Comp. Rend. Soc. Biol., vol. 52, p. 241, 1900.
Eurytrema sp. DENTON, *in* Petri, Trans. Amer. Micr. Soc., vol. 61, p. 61, 1942.
Lyperosomum petiolatum TRAVASSOS, Monogr. Inst. Oswaldo Cruz, No. 2, pp. 136–137, est. 45, figs. 3–6, 1944.

Description: Body spindle-shaped when relaxed, fairly thick and muscular, 2.26 to 4.18 mm. long by 0.34 to 0.92 mm. wide, widest in region between testes and ovary. Cuticle without spines and with small retractile sensory papillae, which are more visible on margins of anterior half of body. Oral sucker muscular, 0.13 to 0.20 mm. in diameter, subterminal in position and preceded dorsally by a fairly prominent liplike projection. Acetabulum muscular, with deep cup-shaped lumen, much larger than oral sucker, 0.25 to 0.40 mm. in diameter, situated within anterior fourth of body. Ratio of diameter of oral sucker to acetabulum varying from 1:1.7 to 1:2.19. Pharynx globular, 0.05 to 0.10 mm. in diameter. Esophagus narrow, usually straight, 0.10 to 0.13 mm. long, surrounded by minute gland cells. Esophagus bifurcating one-half to two-thirds the distance from oral sucker to acetabulum. Ceca slender and slightly sinuous, passing dorsolaterally to margins of testes, terminating approximately one-half the distance from vitellaria to posterior end of body. Excretory pore terminal. Excretory vesicle tubular and voluminous, extending anteriad almost to Mehlis' gland, receiving a common collecting tubule from each side of body. Each common collecting tubule passing anterolaterad to level of equator of testes where it branches into an anterior and posterior main collecting tubule. Genital pore median at about posterior level of pharynx. Testes rounded, 0.09 to 0.20 mm. in greatest diameter, situated directly opposite with zones contiguous or partly overlapping that of acetabulum. Cirrus sac club-shaped, 0.14 to 0.21 mm. long by 0.05 to 0.06 mm. wide, lying entirely in front of or partly dorsal to anterior margin of acetabulum, containing convoluted seminal vesicle, prostatic gland cells, and eversible cirrus. Ovary round to transversely oval, 0.08 to 0.20 mm. in long axis, situated to either right or left side of body, relatively close behind testis on ovarian side of body. Seminal receptacle globular, located dorsal to caudal margin of ovary. Mehlis' gland situated at posteromedial margin of seminal receptacle. Vitellaria composed of numerous medium-sized follicles, extending along lateral margins of body for a distance of 0.85 to 1.32 mm., beginning within testicular zone and terminating about midway between acetabulum and posterior end of body. Vitelline ducts arising from middle of vitellaria. Uterus greatly convoluted, filling most of postacetabular region of body, then following an undulating course to genital pore. Ova numerous, dark brown when mature, 30μ to 36μ long by 20μ to 24μ wide.

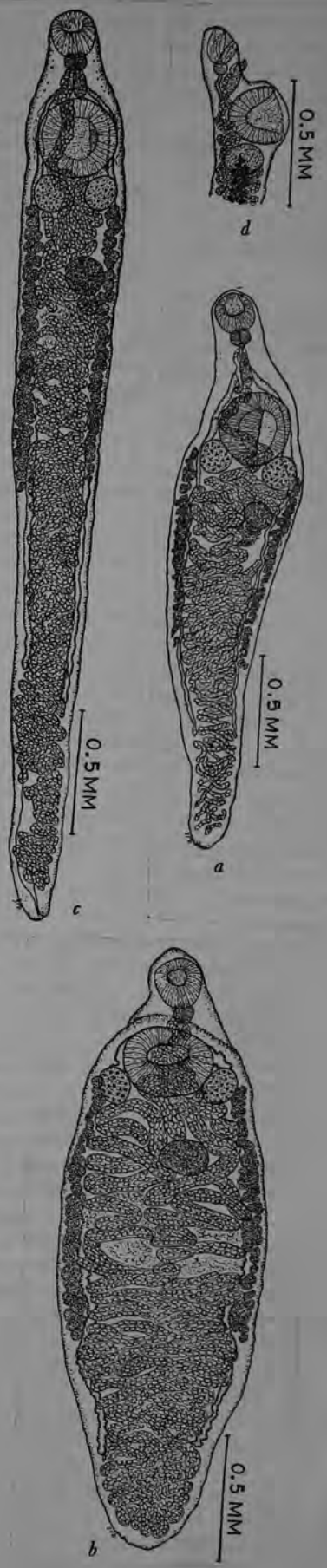
Additional hosts.—*Cyanocitta cristata* (Linnaeus), *Richmondena cardinalis* (Linnaeus), *Hedymeles ludovicianus* (Linnaeus), and *Melanerpes erythrocephalus* (Linnaeus).

Habitat.—Liver and gall bladder.

Localities. TEXAS: Houston, Dewalt, and Eagle Lake; MISSISSIPPI: State College; NEBRASKA: Lincoln.

Specimens No. 36734 from the blue jay *Cyanocitta cristata*, No. 36735 from the red-headed woodpecker, *Melanerpes erythrocephalus*, and No. 36736 from the cardinal, *Richmondena cardinalis*, have been deposited in the helminthological collection of the United States National Museum.

The above description of *Zonorchis petiolatum* is based on a study of more than 100 living and preserved specimens. Usually the number of worms per host is small, but as many as 75 specimens have been taken from a single blue jay from the vicinity of Houston, Tex. In this locality this trematode seems to be particularly prevalent in the blue jay and cardinal. Numerous blue jays and cardinals examined from other localities by the authors have not been found to be infected.



Railliet (1900) very briefly described under the name of *Dicrocoelium petiolatum* a trematode from the liver of *Garrulus glandarius*, the European jay. The following year Braun (1901) obtained from the same host a trematode that he identified as being identical with that described by Railliet. In the same paper Braun (1901) described a second species, *Dicrocoelium delectans*, from the liver of *Thraupis palmarum*, a South American tanager. Undoubtedly, the incompleteness of Railliet's description of *D. petiolatum*, together with the fact that certain discrepancies between length of body, ratio of sucker sizes, and egg size in the material studied by Braun from the European jay on the one hand, and from the South American tanager on the other, led Braun to redescribe and illustrate these two forms as separate and distinct species in a subsequent paper published in 1902. In this latter paper Braun gave a more complete description of the two forms and materially modified the discrepancies between the two forms as relating to ratio of suckers and size of the egg, thereby bringing these two forms into closer agreement. Braun, however, retained both forms as separate species.

Nicoll (1915) transferred *Dicrocoelium petiolatum* to the genus *Platynosomum* Looss, 1907, while Travassos (1916) considered *D. delectans* a member of this same genus. In 1944 Travassos transferred *D. petiolatum* to the genus *Lyperosomum* Looss, 1899.

Travassos (1922) described under the name *Platynosomum marquesi* a dicrocoeliid from the gall bladder of the same South American tanager, *Thraupis palmarum*. Subsequently, Travassos (1944, p. 159) recorded this species from several other South American birds and declared his species to be synonymous with *D. delectans* Braun. Travassos transferred the species to his newly created genus *Zonorchis*. If Travassos (1944) is justified in considering the material included in his species *marquesi* to be synonymous with *delectans* Braun (and we agree with Travassos' decision), the disappearance of the discrepancies between *petiolatum* Railliet and *delectans* Braun as pointed out by Braun (1901, 1902) becomes apparent. It is suggested, therefore, that the material now grouped under the name *Zonorchis delectans* (Braun, 1901) Travassos, 1944, be considered a direct synonym of *Lyperosomum* (=*Dicrocoelium*) *petiolatum* (Railliet, 1900) and that the species be assigned to the genus *Zonorchis*, as *Zonorchis petiolatum* (Railliet, 1900), new combination.

The material in our collection is in perfect agreement with the present concept of the species *Zonorchis petiolatum* (= *Z. delectans* of Travassos). From the material originally described by Railliet (*D. petiolatum*) our material differs in having a smaller body, a smaller sucker ratio, and smaller ova. From *D. petiolatum* as described by Braun our material differs only in having a slightly smaller body. On the other hand, our material conforms very closely with *Zonorchis delectans* (= *Platynosomum marquesi*) of Travassos with the possible exception that the cirrus pouch in our material is slightly smaller.

Zonorchis petiolatum (RAILLIET, 1900) DENTON and BYRD, 1951 (Fig. 44)

Host: *Eudocimus albus* (Linn.), white ibis (new host record).

Location: Bile duct.

Locality: Goodhope oil field, near Norco, Louisiana (new locality record).

Discussion. DENTON and BYRD (1951) reported *Zonorchis petiolatum* from various passerine birds in Texas, Mississippi and Nebraska. These

investigators believed their material, *Z. delectans* (BRAUN, 1901) TRAVASSOS, 1944, and *Lyperosomum petiolatum* (RAILLIET, 1900) TRAVASSOS, 1944, were conspecific. *L. petiolatum* was transferred to the genus *Zonorchis* Travassos, 1944, an action supported by YAMAGUTI (1958), and the synonyms of this species (*Dicrocoelium delectans* (BRAUN, 1901, and *Platynosomum marquesi* TRAVASSOS, 1922) were established. DOLLFUS (1954) erected the genus *Dicrocoelioides*, in which he included *Z. petiolatum*. This investigator later (1957) relegated *Dicrocoelioides* to a subgenus of *Oswaldoia* Travassos, 1919. YAMAGUTI (1958) merged *Dicrocoelioides* and *Oswaldoia* in the genus *Lyperosomum* Looss, 1899. DENTON and BYRD (1951) described the variation in their series of *Z. petiolatum*. Certain specimens from *Cyanocitta cristata* bore a resemblance in body shape to members of the genus *Platynosomum* Looss, 1907, while others assumed a shape similar to members of the genus *Lyperosomum*. However, in characters such as sucker ratio and arrangement of the internal structure, the material of DENTON and BYRD (1951) and ours from the ibis show greater affinities with the genus *Zonorchis*.

TIMON-DAVID (1960) elucidated the life history of *Z. petiolatum*, which involves pulmonate snails *(Helicella arenosa)* and terrestrial isopods *(Armadillidium vulgare* or *Armadillo officinalis)* as first and second intermediate hosts respectively. This investigator, commenting on the confused generic affiliation of this trematode, reservedly followed DOLLFUS (1957) regarding the systematic position of his material.

We have recovered a single dicrocoeliid trematode from the bile duct of a white ibis collected near Norco, Louisiana. The measurements of this worm are as follows: length 3.458, width 1.344, oral sucker 0.235 long by 0.295 wide, acetabulum 0.365 long by 0.370 wide, sucker ratio 1:1.25, pharynx 0.135 long by 0.155 wide, testes 0.320 to 0.350 long by 0.360 wide, ovary 0.260 long by 0.325 wide, eggs 0.025 to 0.027 long by 0.015 to 0.018 wide.

This specimen compares closely with *Z. petiolatum* in body shape and arrangement of the internal organs, differing in the following characteristics: (1) body width (1.344 vs. 0.34 to 0.92 in *Z. petiolatum*); (2) sucker ratio (1:1.25 vs. 1:1.7 to 2.19 in *Z. petiolatum*); size of the testes (0.320 to 0.350 long by 0.360 wide vs. 0.09 to 0.20 in greatest diameter in *Z. petiolatum*); and (4) egg size (0.025 to 0.027 long by 0.015 to 0.018 wide vs. 0.030 to 0.036 long by 0.020 wide in *Z. petiolatum*). In our opinion, these discrepancies do not warrant the separation of our material from *Z. petiolatum*.

LUMSDEN and ZISCHKE (1961) reported and described dicrocoeliid trematodes from rice rats, *Oryzomys palustris*, collected at the Bonnet Carre Spillway, Louisiana. The worms were tentatively identified as *Zonorchis komareki* (MCINTOSH, 1939) TRAVASSOS, 1944. The trematode from the ibis is similar in many respects to those from the rice rats, differing primarily in size and anterior extent of the vitellaria. Specimens of *Z. komareki* from *Oryzomys palustris* in Louisiana measured 3.675 to 5.250 in total length, and the vitellaria extended to the midlevel or foremargin of the acetabulum. In *Z. petiolatum*, the vitellaria terminate at the anterior borders of the testes.

As noted by LUMSDEN and ZISCHKE (1961), there is a dearth of information concerning the extent of morphological variation in adult specimens of species of *Zonorchis*. The similarity of several members of this genus suggests that all do not represent natural species. However, the status of these forms will be determined with validity only when data regarding their life histories, host relationships and variation in adult morphology are available for comparison.

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Zonorchis philanderi Wolfgang, 1951

(Рис. 215а)

Хозяин: *Philander trinitatis.*

Локализация: желчные протоки печени.

Место обнаружения: Вест-Индия (остров Тринидад).

Описание вида (по Вольфгангу, 1951). Мелкие, листовидные паразиты, длина тела которых достигает 2,01—2,21 мм при ширине 1,22—1,32 мм. Ротовая присоска круглая, мышечная, 0,24 мм длины. Размер фаринкса 0,14 × 0,12 мм, пищевод очень короткий. Кишечник разветвляется сейчас же позади фаринкса. Брюшная присоска лежит на расстоянии 0,24—0,39 мм от переднего конца тела; она достигает 0,33—0,36 × 0,028 мм и может быть круглой или поперечно-овальной. Размер ротовой присоски относится к размеру брюшной как 1 : 1,4—1,5. Семенники цельнокрайные, овальной формы, почти равные, расположены рядом, позади брюшной присоски. У одного экземпляра семенники лежали дорзально

215а

Zonorchis philippinensis ~~sp. n.~~ Fischthal and Kuntz, 1973
(Figs. 14, 15)

HOST: *Gallus gallus gallus* L., red jungle fowl (Galliformes: Phasianidae).

HABITAT: Small intestine (?).

LOCALITY: Puerto Princesa.

DATA: 24 May 1962.

SPECIMENS DEPOSITED: No. 72176 (holotype); No. 72177 (paratype).

DIAGNOSIS (based on two adult worms): Body elongate, phylliform, with distinct shoulderlike expansions at acetabular level, extremities rounded, 2,680–4,090 long by 895–1,100 wide at testicular level. Forebody relatively narrow, 510 long; hindbody wide anteriorly, tapering gradually posteriorly, 1,850–2,690 long; forebody–hindbody length ratio 1:3.6–5.3. Suckers round to longitudinally elongate; oral sucker subterminal ventral, 245–250 by 230–245; preoral space 22–23 long; acetabulum 320–505 by 320–425, center at anterior 19–25% of body length; sucker length ratio 1:1.30–2.02, width ratio 1:1.39–1.73. Prepharynx absent; pharynx overlapping oral sucker dorsally, 107–130 by 114–115; esophagus thick-walled, muscular; cecal bifurcation 30–58 preacetabular, somewhat closer to acetabulum than oral sucker; ceca thick-walled, conspicuously cell-lined; postcecal space 500–745 long.

Testes two, diagonal, well separated by uterine coils, intercecal, smooth to very slightly lobed, transversely elongate; anterior testis dextral in holotype, sinistral in paratype, 125–126 by 148–162, lying 10–32 postacetabular; posterior testis on side opposite anterior testis, 120–158 by 165–180, lying 130–145 postacetabular. Cirrus sac thin-walled, slightly muscular, elongate, bending sharply ventral at level of genital atrium, longitudinal extent 155–205 by 110–121 wide, contiguous with acetabulum to overlapping latter 51, terminating 15–30 postpharyngeally. Seminal vesicle bipartite, sinuous, saccular; posterior chamber lined with flat, elongate cells, 82–97 by 90; anterior chamber thicker-walled, lined with larger, more cuboidal cells, 82–90 by 63–68. Pars prostatica very short, tubular. Cirrus elongate, muscular, longitudinal extent 70–90 by 29–39 wide. Prostate cells relatively few, surrounding pars prostatica, anterior part of seminal vesicle, and posterior part of cirrus. Genital atrium small. Genital pore median, lying 21–34 postpharyngeal, 128–133 preacetabular.

Ovary transversely elongate, smooth, posterior to and contiguous with or very slightly separated from posterior testis, 155–157 by 180–184, lying 235–290 postacetabular. Seminal receptacle posterior to and contiguous with ovary, 73–128 by 82–106. Laurer's canal present. Mehlis' gland well developed, posteromedian to ovary, median to seminal receptacle. Vitellaria follicular, in extracecal fields, occasionally overlapping ceca, commencing 120–250 postacetabular at testicular level, extending 810–975 postovarian, occupying middle third of body length; postvitellarian space 945–1,630 long. Uterus filling most of hindbody intercecally, occasionally overlapping ceca, descending postcecally to near posterior extremity, ascending median to ovary and between testes. Metraterm thick-walled, muscular, shorter than cirrus sac, lying dextrodorsal to latter if ovary sinistral or sinistrodorsal if ovary dextral, surrounded by gland cells. Eggs numerous, operculate, 10 measuring 36–45 (39.5) by 22–25 (23.8).

Excretory bladder tubular where visible posteriorly; pore terminal.

DISCUSSION: Our form differs from all others in the genus *Zonorchis* Travassos, 1944, in its phylliform body resulting from the presence of distinct shoulderlike expansions of the body at the acetabular level. It is closest to *Z. panduriformis* (Railliet, 1900) Timon-David, 1953, and *Z. petiolatus* (Railliet, 1900) Denton and Byrd, 1951. The latter species differs further in having the cecal bifurcation closer to the oral sucker, the testes more nearly symmetrically placed, the ovary well separated from the posterior testis by the uterus, and the cirrus sac well anterior to the acetabulum and oval to pyriform. *Z. panduriformis* differs further in having a submedian, more anteriorly placed genital pore, and the cirrus sac pyriform.

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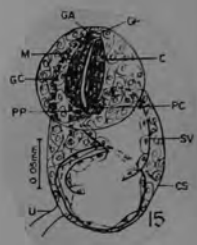


15

Zonorchis singhi n. sp. JAISWAL, 1957

A solitary specimen of this species was obtained once from the gall bladder of the Peacock, *Pavo cristatus*, in August 1946, by Dr. S. N. SINGH, who has so kindly placed the material at the writer's disposal.

The distome is elongate and spindle-shaped with bluntly rounded ends, measuring 6.2 mm. in length. The body has a maximum width of 2.08 mm. which is maintained only for a short distance about its middle, beyond which it gradually tapers both in front and behind terminating in rounded ends. The cuticle is thin and devoid of armature. The oral sucker is subterminal and rounded, measuring 0.41 mm. in diameter. The acetabulum is somewhat oval in shape and well developed, measuring 0.66 by 0.56 mm. It is over one and a half times the size of the oral sucker and is situated in the first quarter of the body. The oral sucker is followed by a well developed pharynx measuring 0.16 by 0.11 mm. The oesophagus is 0.16 mm. long and bifurcates into two long and wide intestinal caeca, the blind ends of which are not discernible owing to the dense coils of the uterus completely filling up the post-acetabular region of the body.

The testes are oval in shape with entire margins and are placed close behind the acetabulum on either side of the median line. The right one is somewhat bigger than the left, the two testes measuring 0.28 by 0.38 mm. and 0.26 by 0.36 mm. respectively. The cirrus sac, about 0.23 mm. long, is well developed extending obliquely from the level of the intestinal fork to the hind border of the pharynx. It encloses a convoluted seminal vesicle, pars prostatica and the cirrus. The genital pore is prebifurcal being situated immediately posterior to the pharynx, midway between the oral sucker and the intestinal fork.

The ovary is subspherical in shape measuring 0.39 by 0.3 mm. It is placed behind the left testis distinctly anterior to the middle of the body and is almost of the same size as the right testis. A bean shaped receptaculum seminis measuring 0.27 by 0.2 mm. lies closely applied to the posterior border of the ovary as shown in figure 4. Mehlis's gland and the Laurer's canal are discernible. The uterus with its ascending and descending limbs fills up the entire post-acetabular region of the body, whilst in front of the acetabulum its terminal portion runs in a zig zag course to open near the male genital pore, slightly anterior to it. The vitellaria are arranged laterally in two or three longitudinal rows of small rounded follicles partly overlapping the caeca. They extend anteriorly to the mid level of the right testis and terminate posteriorly at the junction of the 3rd and 4th quarters of the body on the left side, and slightly anterior to this level on the right. The transverse vitelline ducts lie in a line immediately posterior to the level of the receptaculum seminis. The eggs are oval in outline measuring 31—36 μ long by 19—23 μ wide and contain fully developed miracidia having eye-spots.

Discussion: The species from *Pavo cristatus* is closely allied to *Z. delectans* (BRAUN 1901) TRAVASSOS 1944. It is, however, excluded from it on the following grounds: (1) The ovary and testes are subequal in size in the new species, whereas they are distinctly unequal in *Z. delectans*. (2) The testes in the new species are distinctly posterior to the acetabulum as compared with *Z. delectans*. (3) In their anterior extent the vitellaria reach the level of the hind border of acetabulum in *Z. delectans*, whilst they terminate somewhat posteriorly in the present fluke.

In view of the distinguishing features exhibited it is concluded that the form described herein is new to science. It is proposed to name it *Zonorchis singhi* after Professor S. N. SINGH.

Specific diagnosis: Body elongate and spindle-shaped, measuring 6.2 mm. in length and 2.08 mm. in maximum width; oral sucker 0.41 mm. in diameter; acetabulum 0.66 by 0.56 mm., oval in shape, over one and a half times the size of the oral sucker; testes oval in shape, immediately behind the acetabulum, measuring 0.28 by 0.38 mm. and 0.26 by 0.36 mm.; ovary 0.39 by 0.30 mm., subspherical, lying behind the left testis; vitellaria lateral, extending anteriorly to mid-level of right testis; eggs 31—36 μ by 19—23 μ.

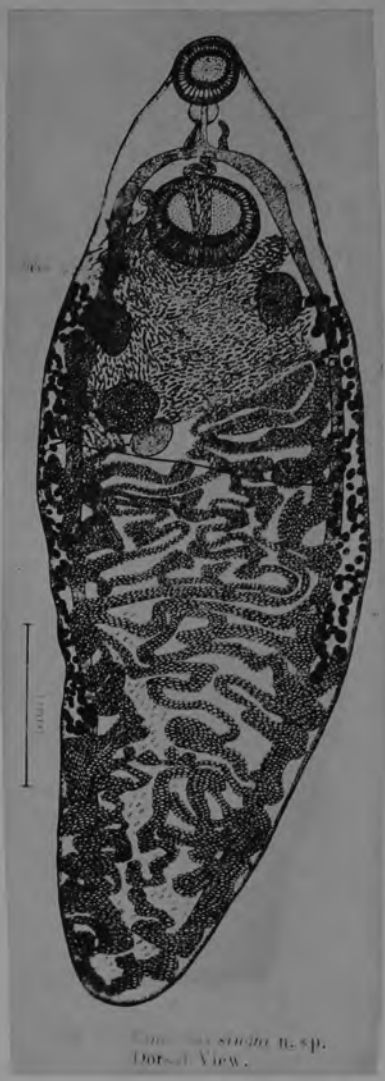
Host: *Pavo cristatus.*

Habitat: Gall bladder.

Locality: Hyderabad Deccan (India).

The type specimens of both the new species of the genus *Zonorchis* have been deposited in the Zoological Museum of the Osmania University.

6.2 long
2.08 wide



Zonorchis singhi n. sp.
Dorsal View.

Zonorchis travassosi ~~n. sp.~~ JAISWAL, 1957.

Four specimens of this species were obtained from the liver of an Indian Robin, *Saxicoloides fulicata cumbaiensis* in April, 1950.

The flukes are very thin and transparent having a broad and elongate body with an attenuated and sharply marked off cephalic portion and an evenly tapering tail end. It measures 3.85—4.57 mm. in length and 1.68—1.89 mm. in maximum width which is attained at the level of the ovary, slightly anterior to middle of the body. The cuticle is thin and devoid of any armature. The oral sucker is terminal and somewhat oval in shape, measuring 0.26—0.47 by 0.23—0.39 mm. The acetabulum is distinctly larger than the oral sucker and is placed immediately posterior to the intestinal fork with its hind border projecting slightly into the second quarter of the body. It measures 0.47—0.64 by 0.39—0.55 mm. and is separated from the oral sucker by a distance of 0.42 mm., the size ratio of the suckers being 1 : 1.4 to 1.8. The mouth is surrounded by the oral sucker, posterior to which is seen the globular pharynx measuring 0.10 mm. in diameter. It is followed by a slender oesophagus which is twice as long as the pharynx and measures 0.2 mm. in length. The oesophagus bifurcates into two long and narrow caeca whose blind ends reach into the caudal region of the body. For most of their length the caeca are indistinct and lie hidden in dense coils of the uterus packed with eggs.

The testes are oval in shape with entire margins. They are symmetrical but far apart from each other with their external borders lying close to the caeca. They are situated posterior and distinctly lateral to the acetabulum with their anterior borders slightly projecting into the zone of the latter. The right testis measures 0.23—0.35 by 0.21—0.28 mm. and the left one 0.23—0.30 by 0.21—0.25 mm. A small cirrus pouch which is placed obliquely below the oesophagus, opens in front at the genital pore near the postero-lateral border of the pharynx. The sac encloses a seminal vesicle, pars prostatica and a feebly developed cirrus.

The ovary is elongated and elliptical in shape, measuring 0.48 by 0.20 mm. It is situated to the right of the median line lying immediately anterior to the mid-level of the body. It is separated from the testes by a wide gap filled up with uterine coils. A globular receptaculum seminis lies immediately posterior to the ovary. The uterus assumes huge proportions, its dense coils occupying all the available space in the post-acetabular region of the body. The terminal part of the uterus forms two or three pre-acetabular coils. The vitellaria consist of small rounded follicles which lie on either side in a longitudinal row, external to the caeca. They extend posteriorly upto the junction of the middle and posterior thirds of the body, whilst anteriorly they reach the mid-level of acetabular zone. The distribution of vitellaria is not exactly identical on the two sides, the vitelline zone on the left side being slightly in advance of that on the opposite side. The eggs are large measuring 35—47 μ long by 20—24 μ wide. They are found in large numbers and at the time of laying contain fully developed miracidia.

Fig. 3. *Zonorchis travassosi* n. sp. Dorsal View.

Discussion: The form described above is allied to *Z. mazzai* VOGELSANG & CORDERO 1928, and *Z. delectans* (BRAUN 1901). The characters revealing its close affinities with these species are, the shape of the body, the position of the gonads in relation to the acetabulum, and the extent of vitellaria. It can, however, be differentiated from both in the following features: (1) The testes in *Z. travassosi* lie mostly posterior to the level of hind border of acetabulum from which they are widely separated. (2) The ovary in the new parasite is elongate and elliptical in shape. (3) The vitellaria are poorly developed in the new form, whilst they are quite prominent in both *Z. mazzai* and *Z. delectans*. (4) The body of the new fluke is much broader

OVER

than that of the other two species. In view of the distinguishing characters exhibited, the worm described above is considered to be a new species. It is proposed to name it *Z. travassosi* after Professor L. TRAVASSOS.

Specific diagnosis: Body broad and elongate with narrow cephalic portion marked off, measuring 3.85—4.57 by 1.68—1.89 mm.; oral sucker oval and terminal, measuring 0.26—0.47 by 0.23—0.39 mm.; acetabulum 0.47—0.64 by 0.39—0.55 mm., sucker ratio 1 : 1.4 to 1.8; testes 0.23—0.35 by 0.21—0.28 mm. and 0.23—0.30 by 0.21—0.25 mm., oval and smooth in contour; ovary immediately in front of mid-level of body, measuring 0.48 by 0.20 mm., elliptical in shape and situated obliquely to right of median line; vitellaria extra-caecal and poorly developed; eggs 35—47 μ by 20—24 μ.

Host: *Saxicoloides fulicata cambaiensis.*
Habitat: Liver.
Locality: Hyderabad Deccan (India).

Genus *Zonorchis* TRAVASSOS 1944 (Syn. *Platynosomum* in part)

The genus *Zonorchis* was created by TRAVASSOS (1944) for the worm *Platynosomum microrchis* TRAVASSOS 1916 from *Laterallus melanophaius* which formed the type. He also referred to this genus the following five other species of *Platynosomum*: *P. delectans* (BRAUN 1901) TRAVASSOS 1916, parasitic in *Thraupis palmarum*; *P. angrense* TRAVASSOS 1919, from *Attila cinereus*; *P. furnarii* VOGELSANG & CORDERO 1928, from *Furnarius rufus*; *P. mazzai* VOGELSANG & CORDERO 1928, from *Speotyto cunicularia grallaria*, and *P. allentoshi* FOSTER 1939, from *Philander laniger pallidus*. He also assigned to this genus *Eurytrema komareki* MCINTOSH 1939, from *Peromyscus gossipinus gossipinus*. In the same year he added two new species to the genus *Zonorchis*, viz., *Z. confusum* from *Formicarius ruficeps ruficeps* and *Z. japanghae* from *Chiroxiphia caudata*. Subsequently, in 1945, he described *Z. goliath* from *Didelphis marsupalis aurita*. WOLFGANG (1951) made *Z. philander* for flukes found in *Philander trinitatis*. SKRJABIN (1952) recognises the above eleven species of the genus *Zonorchis*.

The material obtained from birds in Hyderabad forms the basis of two new species of the genus.

From: JAISWAL, 1957

ZONORCHIS sp.

Beschreibung. Flach, grösste Breite auf der Höhe der Hoden oder dicht hinter, nach vorne und hinten zu schmaler werdend. Mundsaugnapf subterminal, arynx und Oesophagus vorhanden. Darmblindsäcke nicht ganz bis zum Körperhinende, manchmal von verschiedener Länge. Acetabulum im ersten Köperdrittel, r gross. Cirrussack zwischen Acetabulum und Pharynx, mit ausstülpbarem Cirrus. schlechtsöffnung am Hinterrande des Pharynx oder dicht dahinter. Hoden ganzran-, sich unmittelbar hinter dem Acetabulum gegenüber liegend. Ovar schräg hinter n einen Hoden, gelappt, entweder den Hoden berührend oder von ihm durch Uteschlingen getrennt. Receptaculum seminis und Mehlissche Drüse hinter dem ar. Uterus füllt den Raum zwischen den Darmblindsäcken vom Acetabulum bis n Körperhinterende aus. Dotterstöcke lateral von den Darmblindsäcken, meist vor Ebene der Hoden, in einigen Fällen auf der Höhe des Vorderrandes der Hoden ginnend, bis dicht vor das Ende oder bis zum Ende der Darmblindsäcke. Eier oval, t Operculum. (Abb. 1).

MESSERGEBNISSE. (In Millimetern, an 5 Exemplaren, Längs — vor dem Querrchmesser) :

Länge	2.00 -3.84	(Durchschnitt 3.07)	
Max. Breite	1.00 -1.20	(Durchschnitt 1.11)	
Mundsaugnapf	0.18 -0.21 × 0.18 -0.25	(Durchschnitt 0.20	× 0.22)
Acetabulum	0.34 -0.44 × 0.40 -0.48	(Durchschnitt 0.41	× 0.44)
Cirrussack	0.20 -0.28 × 0.07 -0.11	(Durchschnitt 0.25	× 0.09)
Hoden (ovarial)	0.36 -0.55 × 0.28 -0.41	(Durchschnitt 0.43	× 0.35)
Hoden	0.32 -0.50 × 0.33 -0.38	(Durchschnitt 0.41	× 0.34)
Ovar	0.12 -0.22 × 0.19 -0.23	(Durchschnitt 0.17	× 0.22)
Rec. sem.	0.10 × 0.09 -0.10	(Durchschnitt 0.10	× 0.10)
Pharynx	0.10 -0.13 × 0.11 -0.12	(Durchschnitt 0.12	× 0.12)
Eier	0.025-0.031 × 0.017-0.018	(Durchschnitt 0.028	× 0.018)

Wirt : *Callosciurus notatus* (Boddaert) und *C. caniceps* (Gray).

Organ : Gallengänge, gelegentlich Darm.

Fundorte : Bukit Lagong, Subang, Ulu Langat und andere Lokalitäten in Malaya.

Exemplare in Helminthological Collection, Zoology Department, University of laya, Kuala Lumpur.

Verwandtschaft. Eine Abgrenzung von den anderen bekannten Formen lässt sich r Zeit wegen der zahlreichen, zum Teil nur unvollständig beschriebenen Arten nicht rnehmen (vgl. z. B. skrjabin 1952, Jaiswal 1957, und Breues und Jimenez Quiros 59).

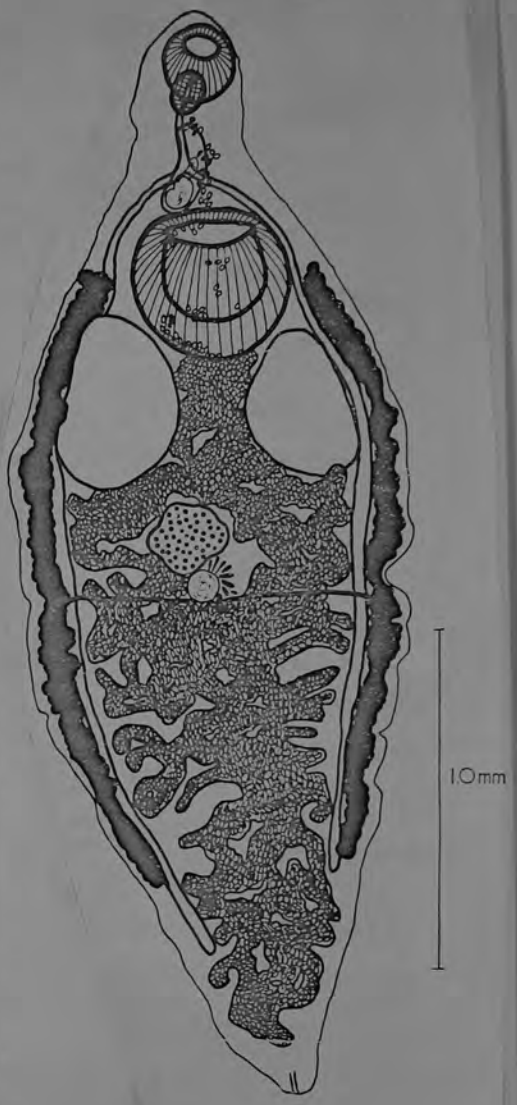


ABB. 1 : *Zonorchis* sp.

FROM RHODE, LEE AND LIM, 1968

***Zonorchis* sp.** (Fig. 40)

Only 3 specimens were obtained from one of *Philander opossum*.

Host : *Philander opossum* (Linnaeus)-1 ex.
Habitat : Bile duct.
Locality : San Alejandro, Dpto. Loreto. PERU
Date : August 21, 1976.

The present specimens are allied to *Z. angrensis* (Travassos, 1920) Travassos, 1944 or *Z. allentoshi* (Foster, 1939) Travassos, 1944. Because the specimens are not in good condition, the identification will be postponed untill more references will be consulted.

From Miyazaki, Kifune, Habe and Uyema, 1978

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ZONORCHIS